

University of Minnesota

BIENNIAL REPORT

of the President and of the Board of Regents

1958 - 1960

to the

Legislature of the State of Minnesota

Approved and Adopted by the Board of Regents

June 30, 1960

THE BOARD OF REGENTS

As of June 30, 1960

The Honorable Ray J. Quinlivan, St. Cloud
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The Honorable James F. Bell, Minneapolis

The Honorable Edward B. Cosgrove, LeSueur

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

The Honorable A. I. Johnson, Benson

The Honorable Lester A. Malkerson, Minneapolis

The Honorable A. J. Olson, Renville

The Honorable Herman F. Skyberg, Fisher

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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, 1960.

I would, at the same time, like to call to your attention *The President's Report, 1960*, which covers the final year in which Dr. James Lewis Morrill served as President of the University. This *President's Report, 1960*, summarizes the many and varied activities of the University. It is designed to attract a wider readership than is usually thought possible through 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, 1961

BIENNIAL REPORT

1958-60

SIGNIFICANT EVENTS, ACTIVITIES, AND ACTIONS

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., Frederick E. Berger, Robert O. Bowen, Edwin L. Haislet, Wilbur F. Jensen, Ralph L. Kitchell, James S. Lombard, Paul M. Oberg, Robert P. Provost, 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 309 individuals through June 30, 1960. By bienniums:

1946-48	2
1948-50	3
1950-52	129
1952-54	41
1954-56	50
1956-58	32
1958-60	52
	<hr/>
	309

The 52 honors conferred during 1958-60 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:

Carlyle E. Anderson, Bus.
Elmer L. Anderson, Bus.
William Anderson, S.L.A.
Myrtle Kitchell Aydelotte, Med.
Norman E. Borlaug, Ag.
William Boss, Ag.
Rena Boyle, Med.
Cledo Brunetti, I.T.
Wendell T. Burns, Bus.
Charles W. Boardman, Ed.
Melvin Calvin, I.T.
Carlyle R. Carlson, Ag.
William H. Cartwright, Ed.
Edwin T. Dahlberg, S.L.A.
Henry W. Dahlberg, I.T.
Charles M. Dale, Law
Fordyce Ely, Ag.
Robert Glen, Ag.
Halvor O. Halvorson, I.T.
Carl W. Hayden, Bus.
Inex Haynes, Med.
Hubert H. Humphrey, S.L.A.
Oscar B. Jesness, Ag.
B. Lamar Johnson, Ed.
Thorvaldur Johnson, Ag.
Lucien B. Kinney, Ed.

Frances I. Lay, Med.
Williard C. Lighter, Bus.
James J. Lingane, I.T.
William Wallace McCallum, Bus.
Otis C. McCreery, Ag.
J. Arthur Meyers, Med.
Gordon K. Moe, Med.
Mildred Montag, Med.
Wayne L. Morris, Law
Cornelius B. Philip, Ag.
Arthur B. Poole, Bus.
Theodore Rasmussen, Med.
Philip L. Ray, Bus.
Leo G. Rigler, Med.
Charles H. Rogers, Pharm.
Theodore H. Rowell, Pharm.
T. Lynn Smith, Ag.
William H. Swanson, Ag.
George L. Tuve, I.T.
Frederick T. Wall, I.T.
Coy Webster Waller, Pharm.
Levon West, S.L.A.
Roy Wilkin, S.L.A.
Jee Lum Wong, Dent.
Harold E. Wood, Bus.
Charlotte M. Young, Ag.

Alumni Service Award—This award was approved by the Regents on February 8, 1957. It is conferred upon alumni or former students of the University of Minnesota in recognition of service given to the University, its schools, colleges, departments, or faculty, or to the Alumni Association or any of its constituent groups. It was conferred for the first time on Charter Day,

February 25, 1960 by President Morrill. Recipients during the biennium were as follows:

George L. Faber
Louis Gross
Sigurd Hagen

Francis (Fug) Lund
Ben W. Palmer
Clifford C. Sommer

Honorary Degrees Conferred—Dean A. F. Spilhaus presented Dr. Farrington Daniels to President Morrill for the honorary degree, Doctor of Science, on June 13, 1959. The text of the citation is as follows:

FARRINGTON DANIELS

NATIVE of Minneapolis, graduate of the University of Minnesota with the degrees of Bachelor of Science and Master of Science, and of Harvard University where he received the degree of Doctor of Philosophy, he is known the whole world over as an outstanding teacher and research chemist of his generation; during the stress and conflict of two world wars he applied himself and his scholarly talents to the defense of the nation; for three decades his scientific acumen and administrative capabilities have nurtured and enhanced the academic distinction and prestige of the Department of Chemistry at the University of Wisconsin; held in highest esteem by his colleagues in science, he had been signally honored as recipient of the Priestly and Willard Gibbs medals in recognition of his distinguished achievements in the field of chemistry—

BECAUSE your early pioneering studies in chemical kinetics, and your lifelong research pertaining to the utilization of all forms of energy, have enabled people around the globe to better their standards of living and to improve their lot in life; and because your own rich life is a heartening example of the rewards and satisfactions that can be derived from an academic career in teaching and research, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Farrington Daniels, the degree of Doctor of Science, *honoris causa*, with all the rights and privileges pertaining to that degree.

Dean W. B. Lockhart presented Judge Gunnar H. Nordbye to President Morrill for the honorary degree, Doctor of Laws, on June 13, 1959. The text of the citation is as follows:

GUNNAR H. NORDBYE

BORN in Urskog, Norway, and reared in Minnesota, he studied for his Bachelor of Laws degree at the University of Minnesota and upon admission to the bar entered practice in the city of Minneapolis; his career as jurist began in the Municipal Court of Minneapolis in 1922, followed by six years on the bench of the Hennepin County District Court, where the brilliance of his mind and the soundness of his legal knowledge foreshadowed the achievements of his future years; his appointment as judge in the Minnesota District of the United States District Court came in 1931, and his service on the federal bench has thus spanned the administrations of four presidents of the United States; during all these years his unquestioned mastery of the law and his ability to apply it dispassionately to the issues before him, have won him the admiration and respect of bench and bar in this state and throughout the nation—

BECAUSE your career has ever been shaped and guided by the highest principles, thereby serving to strengthen and bulwark the legal institutions on which the security and freedoms of this country so firmly rest; and because as judge and private citizen you have devoted your manifold talents to the furthering of truth and justice, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon you, Gunnar H. Nordbye, the degree of Doctor of Laws, *honoris causa*, with all the rights and privileges pertaining to that degree.

Donald J. Cowling Given Regents Award—On December 10, 1958 the Regents Award of the University of Minnesota was awarded to Donald J. Cowling by President Morrill. The text of the citation is as follows:

DONALD J. COWLING

A CORNISHMAN by birth, he became in the years of his childhood a part of the growing greatness of America. From the public schools of this country he obtained his early education and here were laid the foundations of his unyielding faith in the American tradition with its emphasis upon the rights, the dignity, and the nobility of the individual and self-reliant citizen. His undergraduate and graduate degrees were earned at Lebanon Valley College, Yale University, and Baker University, and it was at the latter

institution that he began his educational career, as a teacher of philosophy. From this post he was called to the presidency of Carleton College, and his vigorous leadership of that institution between 1909 and 1945 was inspiring, far-sighted, and exemplary. It has left his imprint not only on Carleton College; it has influenced for betterment the development of the private liberal arts colleges of this country as a whole. For all that his contributions to higher education have meant, he has deservedly been honored in many ways and with many awards and honorary degrees which have given recognition to his eminence and achievements. Off the campus, he has served with endless energy and devotion as President of the Association of American Colleges and of the American Council on Education, as chairman of the Committee of Founders of the Mayo Memorial, as chairman of the Executive Committee for the building of the Masonic Memorial Hospital, and in many capacities he has advanced medical research and the enrichment of scholarship programs. As a dedicated churchman, firm in the faith that things of the spirit and things of the mind are inseparable, his life and works have exemplified that unity.

BECAUSE he has given so fully of himself, others have been inspired by his good example to give of themselves and of their resources; because he has built on faith and thereby transformed visions into towers of brick and mortar dedicated to the healing of men's bodies and the enrichment of their minds and souls; and because Minnesotans and their neighbors now and in years to come will be better because of his labors, the Regents of the University of Minnesota confer upon Donald J. Cowling the Regents Award in special recognition of his qualities of Benefaction, Fidelity, and Leadership.

Earle Brown Given Regents Award—On April 10, 1959, the Regents Award of the University of Minnesota was awarded to Earle Brown by The Honorable Ray J. Quinlivan, Chairman of the Board of Regents. The text of the citation is as follows:

EARLE BROWN

DISTINGUISHED SON of Minnesota, born and reared to manhood in the environs of the ancestral Brooklyn Center home settled by his pioneering maternal grandfather; he was educated in the public schools of Minneapolis and then was irresistibly drawn to the forests and fields of his state, as an early lumberman in Mille Lacs County, as an ardent advocate of efficient methods in scientific agriculture, as an avid sportsman with a boundless enthusiasm for all things of the wilderness and of the land; he devoted himself to raising the best in horses and cattle and to building and safeguarding the best in men; he brought dignity and respect to the office of Sheriff of Hennepin County, and subsequently exhibited the same characteristics of leadership, generosity, and vigor in founding the State Highway Patrol; he gave quiet support to many and varied philanthropic activities; in the same selfless spirit he opened his home to friend and stranger alike, creating in each visitor a rich appreciation of the historical treasures of Minnesota and the West through his valuable collections of relics and mementos of early days—

BECAUSE of his life-time devotion to his state, to its fields, farms, forests, to all its living things, but most of all to its people; because of his invaluable contributions to countless agencies for the public good, the public safety, and the public betterment; and because his greatest gift, his home and lands, will, for generations to come, be used by the University to bring into existence an instrument of education which will yield untold benefits to the land and to the peoples of his native state, the Regents of the University of Minnesota confer upon Earle Brown the Regents Award in special recognition of his qualities of Benefaction, Fidelity, and Leadership.

The American Legion and the American Legion Auxiliary, Department of Minnesota Given Regents Award—On August 23, 1959, the Regents Award of the University of Minnesota was awarded the American Legion and the American Legion Auxiliary, Department of Minnesota, by The Honorable Ray J. Quinlivan, Chairman of the Board of Regents. The text of the citation is as follows:

THE AMERICAN LEGION and THE AMERICAN LEGION AUXILIARY Department of Minnesota

THE IDEA of a living memorial to fallen comrades was born in the bitter ashes of a second world war and was forged by the faith and courage and hard work of the men and women of the American Legion in Minnesota into the American Legion Memorial Heart Research Professorship—a professorship endowed with that distinctly Legion spirit of comradeship and

BIENNIAL REPORT

service as well as with funds. This gift to science and to the health of the present and future generations, has already sparked imaginative and revolutionary research in heart disease, bringing world-wide recognition to the American Legion Professor and to his colleagues, to the University, and to the members of the American Legion and the American Legion Auxiliary, Department of Minnesota.

BECAUSE their generosity has already made possible startling strides in medical knowledge; because their faith will save millions of lives not even yet begun; and because they farsightedly and courageously endowed a medical research professorship at the University, the Regents of the University of Minnesota confer upon the American Legion and the American Legion Auxiliary, Department of Minnesota, the Regents Award in special recognition of the qualities of Benefaction, Fidelity, and Leadership.

The Veterans of Foreign Wars and the Ladies Auxiliary, Department of Minnesota, Given Regents Award—On September 20, 1959, the Regents Award of the University of Minnesota was awarded the Veterans of Foreign Wars and the Ladies Auxiliary, Department of Minnesota, by The Honorable Ray J. Quinlivan, Chairman of the Board of Regents. The text of the citation is as follows:

THE VETERANS OF FOREIGN WARS
and
THE LADIES AUXILIARY
Department of Minnesota

VICTORS in their nation's wars against tyranny and fear, the members of the Veterans of Foreign Wars and of the Ladies Auxiliary, Department of Minnesota, have now joined a yet more fierce battle—against the tyranny and fear of cancer. Uniting in a selfless and dedicated campaign, these men and women have created out of their own courage, imagination and resources, the Veterans of Foreign Wars Cancer Research Center, as a memorial to their war dead, and as an assault against mankind's ancient enemy—disease.

BECAUSE they have fought, and worked, and given toward the good of humanity both in war and in peace; because they have considered no task too great, no opportunity to serve too small; and because, by doing so, they have built and equipped the Veterans of Foreign Wars Cancer Research Center, the Regents of the University of Minnesota confer upon the Veterans of Foreign Wars and the Ladies Auxiliary, Department of Minnesota, the Regents Award in special recognition of the qualities of Benefaction, Fidelity, and Leadership.

H. Rowatt Brown Given Regents Award—On November 3, 1959, the Regents Award of the University of Minnesota was awarded to H. Rowatt Brown by The Honorable Ray J. Quinlivan, Chairman of the Board of Regents. The text of the citation is as follows:

BORN in Canada, he was reared in Minnesota, the state he loves and holds in high regard; a gentle person, he is dedicated to peace and enlightenment and is acutely aware of the indomitable good in the people around him—in his community, in his state; his sensitivity of the good and the beautiful is expressed in a deep appreciation of the everlastingness of the beauty of music—especially the melodious chimes of carillon bells.

BECAUSE, in remembrance of his beloved wife, Frances Miller Brown, he has presented to the University of Minnesota gifts of electronic bells, culminated by his gift of the Carillon Americana; because each day the Brown Bells will mark the hours on campus, and will identify University programs over the air; but especially because each twilight the chimes of the Brown Bells will mingle with the bustle of the University campus and community life to instill in generations to come, a spirit of loyalty and patriotism, the Regents of the University of Minnesota confer upon H. Rowatt Brown the Regents Award in special recognition of his qualities of Benefaction, Fidelity, and Leadership.

Variety Club Given Regents Award—On January 19, 1960, the Regents Award of the University of Minnesota was awarded the Variety Club of the Northwest by The Honorable Ray J. Quinlivan, Chairman of the Board of Regents. The text of the citation is as follows:

THE VARIETY CLUB OF THE NORTHWEST

TO ITS MEMBERS AND FRIENDS, GREETING: entertainment is their vocation, but service is their avocation; the glittery world of show business

is their bread and butter, but, to the barkers of the Variety Club of the Northwest, the stark drama of the human heart is a very real concern. Pitting themselves against the nation's most deadly killer, they have, with rare courage and indomitable persistence, succeeded in raising a great hospital, dedicated to the care of those with heart disease and dedicated, also, to the research that will one day, God willing, defeat this killer.

BECAUSE its barkers and their ladies have given their support to the fight against heart disease; because they continue to give of themselves in this gallant fight; and because, by so doing, they have given encouragement and comfort to men, women, and children everywhere, the Regents of the University of Minnesota confer upon the Variety Club of the Northwest the Regents Award, in special recognition of the qualities of Benefaction, Fidelity, and Leadership.

University Citation Given the Variety Club of the Northwest—A special University of Minnesota Board of Regents' Citation was presented to the Variety Club of the Northwest on January 12, 1959. The text of the citation is as follows:

THE VARIETY CLUB OF THE NORTHWEST

THE STORY of Variety began in Pittsburgh in 1927. Eleven young showmen, meeting solely for the purpose of good fellowship, were destined to become the original barkers of Variety. On Christmas Eve of 1928, a baby girl was abandoned in the Sheridan Square Theater—a baby girl with a note that read: "Her name is Catherine. . . . I have always heard of the goodness of show business and I pray to God you will look out for her." Adopted by the eleven, the baby became Catherine Variety Sheridan—and a great and new purpose for the Variety Club began. With the words ". . . a little child shall lead them" as a motto, the original barkers saw their small group grow to include all of those in show business who are now organized under 37 "tents" scattered around the world.

OUR OWN Variety Club of the Northwest, Tent Number 12, one of the most illustrious tents of Variety Clubs International, is now observing a quarter of a century of service. Its barkers from Minnesota, Wisconsin, North Dakota, and South Dakota come from all walks of show business—theater owners and managers; stage hands, radio, television, stage, and screen performers; theater attorneys; film distributors—humanitarians all. During the earliest days of their organization, the barkers of Tent Number 12 contributed entertainment programs to hospitalized children; later, they gave substantial aid to the hungry and to the confused of the depression years. Still a decade later, they devoted their energies to the care of refugees from Fascist tyranny, and, also, were among the first to mobilize, at the request of President Roosevelt, in the fight against infantile paralysis.

THEN, it was in 1945, an idea was born—fostered and nurtured by the late, beloved Chief Barker Al Steffes—to construct at the University of Minnesota the first hospital in the nation devoted exclusively to diseases of the heart. Thus the warm and responsive people of show business became veritable pioneers on the frontiers of medical discovery. In 1951, the Variety Club Heart Hospital opened its doors to the brilliant and imaginative doctors, surgeons, and scientists, as well as those who came from the farthest corners of the earth seeking healthy, mended hearts. The "goodness of show business" on the one hand and medical research on the other hand, in a memorable partnership, heaped achievement upon achievement. Now today, the Arthur W. Anderson Floor, named for the devoted chief barker who spearheaded early campaign and construction plans, is presented to the University to provide additional research facilities and services.

BECAUSE its barkers and their ladies, with understanding and generous hearts of their own, have dedicated themselves to the building of happier, healthier hearts of others; because they have aided medical science in one of the most moving dramas of all time; because, through their innumerable sacrifices and services, they have exceeded the goals that they set for themselves; and most of all, because there are truly "no people like show people," the Regents of the University of Minnesota have authorized the presentation of this Special Citation to the Variety Club of the Northwest, in public recognition of the Compassion, Grace, and Constancy which the University has come to admire and to cherish.

Death of a Former Regent—Sheldon V. Wood, member of the Board of Regents of the University from 1939-1953, died May 31, 1959. The Board of Regents, in recognition of his service to the University, adopted the following resolution at a meeting on June 13, 1959:

Sheldon V. Wood, whose death on May 31, 1959, brought sadness to the entire community, had special contacts with the University of Minnesota that covered most of the years of his active and richly productive life.

He was sixteen years old when he enrolled at the University as a student. He completed his professional studies and graduated from the College of Engineering.

His children also attended the University.

Then, in 1939, he became a member of the Board of Regents, a post he held until 1953.

Of these contacts with the institution he so deeply loved and respected, Sheldon Wood once wrote: "They have indeed been a wonderful experience, and for them I am truly grateful." It was his expressed desire to render such service as a Regent "as will to some extent at least, repay a great debt which I feel I owe to the University of Minnesota."

During fourteen years of conscientious and devoted service as a member of the Board, Sheldon Wood did, it would be agreed by all who knew him, repay that debt. His interests as a Regent were many, and his own wide experience in the fields of business and engineering, made his contributions to Board thought and action particularly significant and valuable. His concern with the problems of engineering education was ever evident, and he was held in sincere respect by all who turned to him for advice and guidance. He himself found deep satisfaction in the part he played, as a member of the Board's special committee, in selecting the present president of the University.

Sheldon Wood loved his association with the University, and he became, with passing years as a member of the Board, constantly more conscientious of the part the University played in the life of the people of the state. "One does not have to serve long on the Board of Regents," he said, "to realize that citizens generally, of all classes and levels, from both city and rural districts, have a real and sincere interest in the University; and it augurs well for our commonwealth that they speak of it as 'Our University'.

In everything that he did in meeting his responsibilities as a Regent, Sheldon Wood manifested the same sharp, clear qualities of mind that made him so valuable a member of the total community. He was, indeed, motivated by the highest of civic—as well as personal—principles, and these guided him in all the many and varied public services that he undertook.

The Regents of the University of Minnesota are uniquely conscious of all that Sheldon V. Wood meant to the University, and they recognize the debt that they, as fellow Board members, owe to him for his manifold contributions to the on-going of the institution. They recognize, too, what those contributions and service meant to the people of the state as a whole. In Sheldon Wood, they enjoyed an association that was more than rewarding. He was a respected colleague, and more than that, a loyal and good friend.

All of this they wish to express by a formal action, and they now resolve that this statement concerning their friend and colleague be made a part of the permanent records of the Board of Regents and of the University; and that a copy of it, together with their expression of profound sympathy, be sent to Mrs. Wood and the members of the Wood family.

Death of a Regent—George W. Lawson, member of the Board of Regents of the University since 1933, died September 23, 1959. The Board of Regents, in recognition of his service to the University, adopted the following resolution at a meeting on September 25, 1959:

For twenty-six years George W. Lawson served as a member of the Board of Regents of the University of Minnesota. For eighteen of those years he was its second vice president. Those years of service are a testament of exemplary fidelity to the meaning of trusteeship and a cherished heritage in the history of the institution.

The entire life of George W. Lawson was characterized by devoted service to many causes, public and private, and the impact of his strength of character, his innate wisdom, his sense of loyalty and justice, and above all the warmth of his personality, have over the years been a force for good that has shaped the development and progress of the state he loved so deeply and with which his notable achievements are so indelibly identified.

His contributions to the labor movement from the local level to the national organization will long be remembered. For four decades he was a major influence in the Minnesota Federation of Labor as its secretary. The materials he assembled in "The History of Minnesota Labor" constitute a record that is indispensable for those who would understand the growth and changes in the labor movement in this state or in broader scope. The extent to which George W. Lawson himself was a formative figure in that growth and in those changes will become more and more evident with the perspective of passing years.

Many were the occasions on which George W. Lawson declared that no honor that had come to him gave him greater satisfaction than his appointment as a member of the University's governing board. Again and again he loved to tell of his surprise on being called to the office of Governor Floyd B. Olson who informed him that he was to be named. With a characteristic twinkle of the eye and the friendly smile one always associates with him, Mr. Lawson would go on to relate that he told the Governor that "I may not be able to do the things you want me to do there." He then would climax his recital by quoting the Governor: "There's just one promise, George, I want you to make me: that you'll attend all the meetings." There was special significance to George Lawson in that recital, for

to him the anecdote had deep meaning and overtones with respect to the obligations and responsibilities of a Regent of the University of Minnesota. All that mattered was the well-being, the on-going, and the progress of the institution.

His colleagues on the Board know full well that George W. Lawson never deviated from this high concept of his role as a Regent. His firmness was coupled with absolute fairness, and the final word from him on any issue—and there have been many during the quarter century of his Board membership—was motivated only by what was best for the University as he saw it. His sagacity, the breadth of his experience, his devotion to young people, his sharpness of insight, and above all his sympathetic understanding of people as human beings, made him a source of strength and leadership in Board deliberations.

In recognition of all of this, the Regents of the University by formal action spread upon their permanent records this statement of their respect, their admiration and their affection for George W. Lawson, and they instruct the Secretary to forward a copy of this action to Mrs. Lawson and to Paul A. Lawson, their son. In this way they hope to convey their sense of sadness in the loss of a friend and associate whose life has been an inspiration to everyone who knew him.

UNIVERSITY PERSONNEL

CHANGES IN PERSONNEL

Board of Regents

Governor Orville L. Freeman appointed Robert E. Hess, St. Paul, to fill the vacancy due to the death of Regent George W. Lawson.

The 1959 Legislature re-elected the following regents for six-year terms: Marjorie J. Howard (Mrs. C. Edward), Excelsior, Regent-at-large; Dr. Charles W. Mayo, Rochester, Regent-at-large; Lester A. Malkerson, Minneapolis, Regent from Fifth Congressional District.

In 1959 the Legislature appointed A. I. Johnson, Benson, Minnesota, a Regent-at-large, for a six-year term to fill the seat vacated by Karl G. Neumeier, Stillwater, who did not seek 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 periods of service indicated in parentheses, retired during the biennium:

1958-59

- William T. Middlebrook, vice president emeritus of business administration (1925-59).
Katharine J. Densford, director and professor emeritus, School of Nursing (1930-59).
Bernard W. Bierman, professor emeritus of physical education and athletics (1931-59).
Lynwood G. Downs, professor emeritus, German, College of Science, Literature, and the Arts (1915-17; 1919-24; 1931-59).
Frederic E. B. Foley, clinical professor emeritus, urology, College of Medical Sciences (1924-59).
John W. Gruner, professor emeritus, geology and mineralogy, College of Science, Literature, and the Arts (1920-59).
Gladstone B. Heisig, professor emeritus, inorganic chemistry, Institute of Technology (1918-59).
Julia F. Herrick, professor emeritus biophysics, Mayo Foundation (1933-58).
Louis F. Keller, professor emeritus of physical education and athletics (1924-59).
Clarence D. Ludwig, professor emeritus political science, head of Municipal Reference Bureau (1935-59).
Hamilton Montgomery, professor emeritus dermatology, Mayo Foundation (1929-59).
Howard D. Myers, professor emeritus mechanical engineering, Institute of Technology (1916-59).
Norville C. Pervier, professor emeritus inorganic chemistry, Institute of Technology (1920-59).
Grace M. Roth, professor emeritus physiology, Mayo Foundation (1941-59).
Carl F. Schlotthauer, professor emeritus of veterinary medicine, Mayo Foundation (1927-58).
Edward C. Stafne, professor emeritus dental surgery, Mayo Foundation (1930-59).

- Lawrence D. Steefel, professor emeritus history, College of Science, Literature, and the Arts (1923-59).
- Miles A. Tinker, professor emeritus psychology, College of Science, Literature, and the Arts (1927-59).
- Lloyd A. Wilford, professor emeritus anthropology, College of Science, Literature, and the Arts (1933-59).
- Henry G. Zavoral, professor emeritus extension animal husbandman, Agricultural Extension (1921-59).
- John J. Hochfilzer, clinical associate professor emeritus otolaryngology, College of Medical Sciences (1938-59).
- Chauncey A. McKinlay, physician, Student Health Service and clinical associate professor emeritus internal medicine, College of Medical Sciences (1919-59).
- Mary J. Shaw, associate professor emeritus philosophy, College of Science, Literature, and the Arts (1926-59).
- Mildred R. Ziegler, associate professor emeritus pediatrics, College of Medical Sciences (1917-59).
- Harold C. Habein, assistant professor emeritus medicine, Mayo Foundation (1926-58).
- Flora M. Staple, assistant professor emeritus Division of Education and Psychology, Duluth Branch (Duluth State Teachers College 1933-47; Duluth Branch 1947-59).
- Roy E. Swanson, clinical assistant professor emeritus obstetrics and gynecology, College of Medical Sciences (1926-59).
- Alice H. Fuller, clinical instructor emeritus pediatrics, College of Medical Sciences (1923-25; 1932-33; 1942-59).
- Robert H. Tuttle, instructor emeritus, General Extension Division (1927-59).

1959-60

- James L. Morrill, president emeritus (1945-60).
- Theodore C. Blegen, dean of the Graduate School and professor emeritus, history (1927-60).
- Jacob A. Bargen, professor emeritus, medicine, Mayo Foundation (1925-59).
- Bryng Bryngelson, professor emeritus, speech (1927-60).
- Harry A. Doeringsfeld, professor emeritus, aeronautical engineering (1922-60).
- Austin A. Dowell, professor emeritus, agricultural economics (1922-60).
- Arthur E. Engebretson, professor emeritus, Agricultural Extension (1930-60).
- Ernst Gellhorn, professor emeritus, neurophysiology (1943-60).
- Henry E. Hartig, professor emeritus, electrical engineering (1919-60).
- Anderson C. Hilding, clinical professor emeritus, otolaryngology (1920-21; 1944-60).
- Robert E. Hodgson, professor emeritus, Southern Experiment Station (1915-60).
- Howard C. H. Kernkamp, professor emeritus, veterinary pathology and parasitology (1914-60).
- Jane M. Leichsenring, professor emeritus, School of Home Economics (1924-60).
- John S. Lundy, professor emeritus, anesthesiology, Mayo Foundation (1925-59).
- Thomas B. Magath, professor emeritus, bacteriology and parasitology, Mayo Foundation (1920-60).
- Clarence E. Mickel, professor emeritus, entomology and economic zoology (1922-60).
- Forrest E. Miller, professor emeritus, aeronautical engineering (1923-60).
- Herman J. Moersch, professor emeritus, medicine, Mayo Foundation (1925-60).
- Donald G. Paterson, professor emeritus, psychology (1921-60).
- William E. Petersen, professor emeritus, dairy husbandry (1921-60).
- William T. Peyton, professor emeritus, neurosurgery (1922-60).
- Marshelle H. Power, professor emeritus, biochemistry, Mayo Foundation (1927-59).
- Thorvald Schantz-Hansen, professor emeritus, Cloquet Forest Research Center (1918-60).
- Harold R. Searles, professor emeritus, Agricultural Extension (1917-18; 1922-60).
- Lee I. Smith, professor emeritus, organic chemistry (1920-60).
- Alice F. Tyler, professor emeritus, history (1927-60).

- Hugh B. Wilcox, professor emeritus, mathematics, Institute of Technology (1920-60).
- Elmer E. Young, professor emeritus, art (1922-60).
- James B. Carey, Sr., clinical associate professor emeritus, medicine (1921-59).
- Ramer D. Leighton, associate professor emeritus, Agricultural Extension (1925-60).
- Howard M. Odel, associate professor emeritus, medicine, Mayo Foundation (1938-59).
- Lawrence F. Richdorf, clinical associate professor emeritus, pediatrics (1924-60).
- James D. Winter, associate professor emeritus, horticulture (1929-60).
- Elizabeth M. Atkins, assistant professor emeritus, English (1921-60).
- Mary I. Elwell, assistant professor emeritus, Division of Science and Mathematics, University of Minnesota, Duluth (Duluth State Teachers College 1918-47; University of Minnesota, Duluth 1947-60).
- Torstein D. Grinager, assistant professor emeritus, Agricultural Extension (1928-60).
- Harriet J. Harrison, assistant professor emeritus, University of Minnesota, Duluth (Duluth State Teachers College 1923-47; University of Minnesota, Duluth 1947-60).
- Harold E. Hullsiek, clinical assistant professor emeritus, surgery (1927-60).
- John A. Anderson, instructor emeritus, West Central School and Station (1916-44; 1946-60).
- Charles L. Bane, instructor emeritus, psychology, General Extension Division (1925-60).
- Alice M. Lewis, instructor emeritus, English, General Extension Division (1945-60).
- Cameron Booth, lecturer emeritus, art (1950-60).
- Heide L. Henriksen, lecturer emeritus, School of Public Health (1944-59).

TERMINATIONS, 1958-59

- Josef M. Brozek, professor in Laboratory of Physiological Hygiene, effective July 31, 1959, to accept chairmanship of department of psychology at Lehigh University.
- Berry Campbell, professor of anatomy, effective December 31, 1958, to accept position as professor of neurological research at the College of Medical Evangelists in Los Angeles, California.
- Samuel S. Goldich, professor of geology and mineralogy, effective June 15, 1959, to accept position with the United States Geological Survey, Washington, D.C.
- William N. Lipscomb, professor and chief of physical chemistry, effective June 15, 1959, to accept position at Harvard University.
- Thomas F. Magner, professor and chairman of Slavic and Oriental Languages, effective June 15, 1959, to accept professorship at Penn State University.
- Raymond D. Pruitt, professor of medicine, Mayo Foundation, effective June 30, 1959, to accept position as chief of medicine at Baylor Medical University in Houston, Texas.
- Wilfrid S. Sellars, professor of philosophy, effective June 15, 1959, to accept professorship at Yale University.
- Malcolm B. Stinson, professor in School of Social Work, effective March 31, 1959, to accept deanship of School of Social Work at the University of Southern California, Los Angeles.
- Dale Yoder, professor and director of Industrial Relations Center, effective June 15, 1959, to accept position as professor and director of the Stanford University Graduate School of Business.
- Peter C. Apostolakos, associate professor and head of psychology, Duluth Branch, effective June 15, 1959, to accept position in industry.
- Ronald I. Beazley, associate professor in School of Forestry, effective August 21, 1959, to accept professorship at the University of Southern Illinois, Carbondale.
- Osborne B. Cowles, associate professor of physical education and athletics, effective June 15, 1959.
- John N. Cummings, associate professor of animal husbandry, effective October 31, 1958.

- Ellen A. Frogner, associate professor of English in Humanities Division, Duluth Branch, effective June 15, 1959, to accept professorship at the University of Southern Illinois.
- James H. Gholson, associate professor extension specialist in dairy products in Agricultural Extension, effective July 28, 1959, to accept position at Louisiana State University.
- Thomas F. Irvine, Jr., associate professor of mechanical engineering, effective June 15, 1959, to accept professorship at the University of North Carolina.
- Irwin H. Kaiser, associate professor of obstetrics and gynecology, effective June 15, 1959, to accept position at the University of Utah as head of the department of obstetrics and gynecology.
- Murray Krieger, associate professor of English, effective June 15, 1959, to accept professorship at the University of Illinois.
- Charles A. Simkins, associate professor extension specialist in soils in Agricultural Extension, effective May 31, 1959, for foreign service in Iran.
- Robert W. Wiethoff, clinical associate professor in School of Dentistry, effective June 15, 1959, to devote more time to private practice.
- Edward D. Berryman, assistant professor and university organist, effective June 15, 1959, for advanced study at Union Theological Seminary.
- Stanley M. Block, assistant professor of mechanical engineering, effective June 15, 1959, to accept associate professorship in the graduate school of business at the University of Chicago.
- Mary L. Bouldin, assistant professor in Division of Education and Psychology, Duluth Branch, effective June 15, 1959, to attend the University of Illinois Graduate School.
- Joel G. Brunson, assistant professor of pathology, effective June 30, 1959, to accept position as professor and head of pathology at University of Mississippi Medical Center, Jackson, Mississippi.
- André Bruwer, assistant professor of radiology, Mayo Foundation, effective September 30, 1958, to move to Tuscon, Arizona.
- James W. Carper, assistant professor in General Extension Division, effective March 15, 1959, to become campaign manager for G. Dillon, candidate for mayor of Minneapolis.
- Henry W. Dodge, Jr., assistant professor of neurosurgery, Mayo Foundation, effective September 30, 1958.
- Floyd O. Flom, assistant professor of political science, effective June 15, 1959, to serve as representative, community and governmental relations for the General Electric Company in Philadelphia.
- Mary E. Giffin, assistant professor of psychiatry, Mayo Foundation, effective September 1, 1958, to accept position as medical director of North Shore Mental Health Clinic, Chicago.
- Data M. Hochhalter, assistant professor extension specialist home improvement in Agricultural Extension, effective July 30, 1959.
- Iwao Iwasaki, assistant professor in School of Mines and Metallurgy, effective June 15, 1959, to return to Japan.
- Helmi Koivisto, assistant professor in home economics education, effective June 15, 1959.
- Dorothy O. Lareau, assistant dean and assistant professor in Law School, effective May 1, 1959.
- James L. Lundy, assistant professor of mechanical engineering, effective December 15, 1958, to accept position as director of corporate planning for Josten Manufacturing Company, Owatonna, Minnesota.
- Alexander R. Margulis, assistant professor of radiology, effective March 31, 1959, to accept position at Washington University, St. Louis.
- Stanley R. Meinen, assistant professor-assistant state leader 4-H Club in Agricultural Extension, effective January 22, 1959, to accept position with National 4-H Club Foundation, Chevy Chase, Maryland.
- Emmett B. Moore, Jr., assistant professor of physics in Division of Science and Mathematics, Duluth Branch, effective June 15, 1959.
- William R. Morgan, assistant professor of speech in Humanities Division, Duluth Branch, effective June 15, 1959, to accept position at the University of Nebraska.

- Chester W. Murphy, assistant professor in Physical Education and Athletics for Men, effective June 15, 1959, to accept position as assistant supervisor of physical education at the University of California, Berkeley.
- William B. Nienaber, clinical assistant professor in School of Dentistry, effective June 15, 1959, to devote more time to private practice.
- T. George Nishida, clinical assistant professor in School of Dentistry, effective June 15, 1959, to devote more time to private practice.
- James D. Ray, assistant professor of physical chemistry, effective June 15, 1959, to accept position at the Georgia Institute of Technology.
- Lily Salz, assistant professor of English in Division of Humanities, Duluth Branch, effective June 15, 1959, to accept position at Oshkosh State College, Oshkosh, Wisconsin.
- Evelyn Sanborn, assistant professor in School of Public Health, effective June 15, 1959, to return to private practice.
- Ivor P. Smyth, assistant professor of radiology, effective June 30, 1959.
- Edward T. Sullivan, assistant professor in School of Forestry, effective July 30, 1959, to accept position at the University of Florida.

TERMINATIONS, 1959-60

- John G. Darley, associate dean of Graduate School, effective October 1, 1959, to serve as Executive Secretary of American Psychological Association, Washington, D.C. (to retain his professorship in psychology without salary).
- Russell M. Cooper, assistant dean and professor, College of Science, Literature, and the Arts, effective September 30, 1959, to accept a position as Dean of Liberal Arts, University of South Florida, Tampa.
- Harlan M. Blake, professor in Law School, effective January 31, 1960, to accept a position at Columbia University.
- John Bowditch, professor of history, effective June 15, 1960, to accept a position at the University of Michigan.
- Theodore Caplow, professor of sociology, effective June 15, 1960, to accept a position at Columbia University.
- Adrianus J. Dekker, professor of electrical engineering, effective June 15, 1960, to accept a position at the University of Groningen, The Netherlands.
- Edmund B. Flink, professor of medicine, without salary, effective September 1, 1960, to accept a position at the University of West Virginia Medical School.
- Bernard C. Glueck, Jr., professor of psychiatry and neurology, effective June 15, 1960, to accept a position as research director at the Institute for Living at Hartford, Connecticut.
- Dale B. Harris, professor and director in the Institute of Child Development and Welfare, effective August 31, 1959, to accept a professorship in psychology at Pennsylvania State University.
- Paul L. Holmer, professor of philosophy, effective June 15, 1960, to accept a position at Yale Divinity School.
- Theodore Hornberger, professor of English, effective June 15, 1960, to accept a position at the University of Pennsylvania.
- Wilbur L. Layton, professor of psychology and assistant director of the Student Counseling Bureau, effective December 31, 1959, to accept a position at Iowa State University, Ames, Iowa.
- Leon M. Liddell, professor in Law School, effective January 31, 1960, to accept a position at the University of Chicago Law School.
- Marion W. McCrea, professor and associate dean in the School of Dentistry, effective June 30, 1960, to continue his work at Temple University.
- John M. H. Olmsted, professor and associate chairman in the Department of Mathematics, College of Science, Literature, and the Arts, effective June 15, 1960, to accept a position at Southern Illinois University, Carbondale, Illinois.
- Alvin F. Sellers, professor and head of veterinary physiology and pharmacology, effective August 31, 1960, to accept a position at New York State Veterinary College of Cornell University, Ithaca, New York.
- Ben B. Sutton, professor in the School of Business Administration, effective June 15, 1960, to serve as Vice President of Apache Oil Corporation, Minneapolis.

- Helen M. Wallace, professor of Maternal and Child Health in the School of Public Health, effective August 18, 1959.
- Bernard Zimmermann, professor of surgery, effective June 30, 1960, to accept a position as professor and chairman of the Department of surgery at West Virginia Medical Center at Morgantown.
- Gladys I. Bellinger, associate professor in the School of Home Economics, effective December 31, 1959, to accept a position as head of the department of home economics at the University of Idaho.
- Marthe Blinoff, associate professor of Romance Languages, effective June 15, 1960, to reside and teach in France.
- William Cohen, associate professor in Law School, effective June 15, 1960, to accept an appointment at the University of California, Los Angeles.
- Watson B. Fulks, associate professor of mathematics, Institute of Technology, effective June 15, 1960, to accept a professorship at Oregon State College, Corvallis, Oregon.
- Joan Gordon, associate professor in the School of Home Economics, effective June 15, 1960, to accept an appointment at Pennsylvania State University.
- John M. Gradwohl, associate professor in Law School, effective June 15, 1960, to accept a position at the University of Nebraska.
- Robert H. Haakenson, associate professor and head of speech, University of Minnesota, Duluth, effective December 31, 1959, to accept a position with Smith, Kline, and French Laboratories, Philadelphia, Pennsylvania.
- Ermond H. M. Hartmans, associate professor in extension economist farm management, Agricultural Extension, effective May 11, 1960, to continue his work with Food and Agriculture Organization of the United Nations.
- Karl R. Johansson, associate professor of bacteriology and immunology, effective November 15, 1959, to accept a position at the National Institutes of Health, Bethesda, Maryland.
- Richard H. Lyon, associate professor of electrical engineering, effective June 15, 1960, to accept a position with industrial firm, Bolt, Beranek, and Newman, Inc., Cambridge, Massachusetts.
- Marc L. Nerlove, associate professor of agricultural economics, effective June 30, 1960, to accept a position at Stanford University.
- Magnus C. Petersen, associate professor of neurology and psychiatry, Mayo Foundation, effective February 29, 1960, for private practice in Rochester, Minnesota.
- Melvin W. Stromberg, associate professor of veterinary anatomy, effective July 31, 1960, to accept a position at Purdue University.
- Elmer G. Wakefield, associate professor of medicine, Mayo Foundation, effective December 31, 1959, for private practice in Springfield, Missouri.
- Hidehiko Yamabe, associate professor of mathematics, Institute of Technology, effective June 15, 1960, to accept a professorship at Northwestern University.
- Charles A. Brekke, clinical assistant professor in the School of Dentistry, effective June 15, 1960, to have more time for his private practice.
- Jean A. Burgess, assistant professor of Physical Education for Women, effective June 16, 1960, to seek a position in the Southwest.
- George S. Bush, assistant professor in the School of Journalism, effective December 15, 1959, to accept a position at Pennsylvania State University.
- Ronald C. Bzoch, assistant professor of mathematics, College of Science, Literature, and the Arts, effective June 15, 1960, to accept a position at the University of Utah.
- Carl M. Clifton, assistant professor of dairy husbandry, effective December 31, 1959, to accept a position at the University of Georgia.
- Walter S. Collins, assistant professor of music, effective at the close of 1959-60, to accept headship of the music department of Michigan State University, Oakland, at Rochester, Michigan.
- Jay C. Davis, clinical assistant professor of medicine, effective June 30, 1960, moving out of state.
- Rafael Druian, assistant professor of music, effective June 15, 1960, to become concertmaster with the Cleveland Symphony Orchestra.
- John E. Estes, Jr., assistant professor of medicine, Mayo Foundation, effective March 31, 1960, to enter private practice in Phoenix, Arizona.

- C. David Gorman, assistant professor of mathematics, College of Science, Literature, and the Arts, effective June 15, 1960, to accept a position at New York University.
- Richard H. Greenspan, assistant professor of radiology, effective December 31, 1959, to accept a position at Yale University.
- Charles Hatfield, Jr., assistant professor of mathematics, College of Science, Literature, and the Arts, effective June 15, 1960, to assume chairmanship of the department of mathematics at the University of North Dakota.
- George Hudson, assistant professor of anatomy, effective June 15, 1960, to return to the University of Bristol, England.
- Margaret M. Jacobson, assistant professor-district supervisor of home economics, Agricultural Extension, effective October 7, 1959, to attend Purdue University for work on doctorate.
- Margery Low, assistant professor in the School of Nursing, effective June 30, 1960, to do foreign service.
- Doris I. Miller, assistant professor in the School of Nursing, effective September 15, 1959, to accept a position at the University of California Medical Center, San Francisco.
- William H. Mullins, assistant professor of general education, effective June 15, 1960, to accept a position at the University of Iowa.
- Donald H. Nelson, clinical assistant professor in the School of Dentistry, effective June 15, 1960, to join the Mayo Clinic, Rochester.
- Francis B. O'Leary, assistant professor and librarian, Institute of Technology Library, effective June 30, 1960.
- David A. Pope, assistant professor of mathematics, Institute of Technology, effective at the close of 1959-60, to accept a position with the University of California, Davis.
- Edward R. Rang, assistant professor of aeronautical engineering, effective June 15, 1960, to accept a position with Minneapolis-Honeywell.
- Arthur R. Robinson, assistant professor of aeronautical engineering, effective June 15, 1960 to accept a position at the University of Illinois.
- Charles H. Scheifley, assistant professor of medicine, Mayo Foundation, effective April 15, 1960.
- Hans C. Schwyzer, clinical assistant professor of surgery, effective June 30, 1960, moving to Raton, New Mexico.
- James E. Spear, assistant professor-manager in Minneapolis office and Institute Program, General Extension Division, effective June 30, 1960.
- Thomas F. Stovall, assistant professor in General College, effective June 15, 1960, to accept a position at the University of South Florida, Tampa.
- Walter B. Wallin, assistant professor in the School of Forestry, effective at the close of 1959-60, to accept a foreign service appointment with the International Cooperative Administration, U. S. Department of State, in East Pakistan.
- Frederick A. Wuoi, assistant professor of business and economics, University of Minnesota, Duluth, effective June 15, 1960.

APPOINTMENTS, 1958-59

Professors

- Martin Bronfenbrenner as professor of economics, School of Business Administration
A.B. 1934, Washington University (St. Louis, Missouri); Ph.D. 1939, University of Chicago
- Charles H. Foster as professor of English
B.A. 1936, Amherst College; M.A. 1937, Ph.D. 1939, State University of Iowa
- John E. Harris as professor and head of ophthalmology
B.S. 1935, University of Toledo; M.S. 1938, Ph.D. 1940, State University of Iowa; M.D. 1950, University of Oregon
- Helmut G. Heinrich as professor of aeronautical engineering
Bachelor Mechanical Engineering 1931, State Engineering College (Stettin, Germany); Diplom-Ingenieur der Luftfahrt-Technik 1939, Doktor der Ingenieur-Wissenschaften 1943, Technische Hochschule (Stuttgart, Germany)

William E. Ranz as professor of chemical engineering

Ch.E. 1947, University of Cincinnati; M.S. 1948, Ph.D. 1950, University of Wisconsin

Associate Professors

Peter C. Apostolakos as associate professor and head of psychology, Division of Education and Psychology, Duluth Branch

B.S. 1947, Duluth State Teachers College; B.B.A. 1940, M.A. 1949, Ph.D. 1957, University of Minnesota

Richard Behrens as associate professor of agronomy and plant genetics

B.S. 1949, M.S. 1950, Ph.D. 1952, University of Wisconsin

Delbert C. Hastings as associate professor, School of Business Administration

B.S. 1947, M.A. 1949, Ph.D. 1954, University of Minnesota

Carroll V. Hess as associate professor of agricultural economics

B.S. 1947, Penn State University; M.S. 1948, Ph.D. 1953, Iowa State College

Clifford P. Hooker as associate professor of general education and field studies and surveys, College of Education

B.Ed. 1941, M.S. 1949, Southern Illinois University; Ed.D. 1954, Indiana University

David L. LaBerge as associate professor of psychology

B.A. 1950, College of Wooster; M.A. 1952, Claremont Graduate School; Ph.D. 1955, Stanford University

Lura M. Morse as associate professor, School of Home Economics

B.A. 1936, M.A. 1939, Ph.D. 1946, University of California

Marc L. Nerlove as associate professor, Ford Foundation Research in Economics, School of Business Administration

B.A. 1952, University of Chicago; M.A. 1955, Ph.D. 1956, Johns Hopkins University

Samuel H. Popper as associate professor of general education and field studies and surveys, College of Education

B.A. 1947, Brooklyn College of the City of New York; M.A. 1948, Ph.D. 1952, New York University

Mahmoud Riaz as associate professor of electrical engineering

LL.B. 1944, University of Paris; B.S. 1946, Cairo University; M.E.E. 1947, Rensselaer Polytechnic Institute; E.E. 1952, Sc.D. 1955, Massachusetts Institute of Technology

Frank L. Spitzer as associate professor of mathematics, College of Science, Literature, and the Arts

Ph.D. 1953, University of Michigan

Harold W. Stevenson as associate professor, School of Business Administration

B.S. 1943, University of Minnesota; M.B.A. 1949, Ph.D. 1957, University of Michigan

Assistant Professors

Eleanor M. Anderson as assistant professor, School of Public Health

B.S. 1948, New York University; M.P.H. 1958, University of Minnesota

Rutherford Aris as assistant professor of chemical engineering

B.S. 1947, External B.Sc. in math 1948, London University

Paul W. Bamford as assistant professor of history

B.A. 1943, University of Denver; M.A. 1947, Ph.D. 1951, Columbia University

Robert W. Bath as assistant professor—district 4-H Club leader, Agricultural Extension

B.S. 1953, University of Nebraska; M.Ed. 1956, University of Maryland

Robert W. Berg as assistant professor—extension specialist poultry, Agricultural Extension

B.S. 1941, M.S. 1950, Ph.D. 1953, University of Minnesota

Robert G. Berryman as assistant professor, School of Business Administration

B.S. 1950, M.S. 1952, Northwestern University; Ph.D. 1958, University of Illinois

- Russell W. Burris as assistant professor, General College
B.A. 1949, University of Colorado; M.S. 1955, Ph.D. 1958, Indiana University
- Keith S. Champlin as assistant professor of electrical engineering
B.S. 1954, M.S. 1955, Ph.D. 1958, University of Minnesota
- Walter S. Collins as assistant professor of music
B.A. 1948, B.M. 1951, Yale University; M.A. 1953, University of Michigan
- Dean A. Crawford as assistant professor of secondary education, Division of Education and Psychology, Duluth Branch
B.A. 1949, M.A. 1953, Ph.D. 1955, State University of Iowa
- John S. Dahler as assistant professor of chemical engineering
B.S. 1951, M.S. 1952, Municipal University of Wichita; Ph.D. 1955, University of Wisconsin
- Richard D. Durbin as assistant professor of plant pathology and botany
B.S. 1952, Ph.D. 1958, University of California, Berkeley
- Edward Flaccus as assistant professor of biology, Division of Science and Mathematics, Duluth Branch
B.S. 1942, Haverford College; M.S. 1951, University of New Hampshire; Ph.D. 1959, Duke University
- Richard J. Foster as assistant professor of English
B.A. 1949, M.A. 1950, Oberlin College; Ph.D. 1957, Syracuse University
- Joseph N. Frank as assistant professor of English
Ph.D. 1960, University of Chicago
- Arnold G. Fredrickson as assistant professor of chemical engineering
B.S. 1954, M.S. 1956, University of Minnesota; Ph.D. 1959, University of Wisconsin
- Paul W. Gast as assistant professor of geology
B.S. 1952, Wheaton College; M.A. 1955, Ph.D. 1957, Columbia University
- Eleanor G. Gifford as assistant professor home agent-at-large, Agricultural Extension
B.S. 1927, Massachusetts State Teachers College (Framingham); M.Ed. 1955, University of Maryland
- Jules S. Golden as assistant professor of psychiatry and neurology
B.A. 1947, Harvard College; M.D. 1948, Long Island College of Medicine
- John C. Green as assistant professor of geology, Division of Science and Mathematics, Duluth Branch
A.B. 1953, Dartmouth College; M.A. 1956, Ph.D. 1960, Harvard University
- Peter Gregory as assistant professor of economics, School of Business Administration
B.A. 1948, Ohio Wesleyan University; M.A. 1950, Ph.D. 1957, Harvard University
- Frank D. Hirschbach as assistant professor of German
B.A. 1946, New Haven Connecticut State Teachers College; M.A. 1949, Ph.D. 1952, Yale University
- Mary J. Hitchcock as assistant professor, School of Home Economics
B.S. 1942, M.S. 1950, Drexel Institute of Technology
- Leverett P. Hoag as assistant professor of geography, Division of Social Sciences, Duluth Branch
B.Ed. 1937, Moorhead State Teachers College; M.A. 1953, Ph.D. 1958, University of Minnesota
- Allen Hodges as assistant professor in school of psychology training program, College of Education
B.A. 1947, University of Minnesota; M.A. 1948, Ph.D. 1953, University of Tennessee
- John G. Hurst as assistant professor, Institute of Child Development and Welfare
B.S. 1952, M.Ed. 1953, Springfield College; Ph.D. 1958, Ohio State University
- Herbert Jonas as assistant professor, College of Pharmacy
B.S. 1940, Ph.D. 1950, University of California

- James J. Lawton, Jr. as assistant professor of pediatrics, division of child psychiatry
B.S. 1938, Manhattan College; M.D. 1942, Long Island College of Medicine
- Edward Leete as assistant professor of organic chemistry
B.S. 1948, Ph.D. 1950, University of Leeds (England)
- John A. Lofgren as assistant professor-extension entomologist, Agricultural Extension
B.S. 1947, M.S. 1950, South Dakota State College
- Irving J. Lowe as assistant professor, School of Physics
B.E.E. 1951, The Cooper Union; Ph.D. 1956, Washington University (St. Louis, Missouri)
- Chester A. Mead as assistant professor, School of Chemistry
B.A. 1954, Carleton College; Ph.D. 1958, Washington University (St. Louis, Missouri)
- Paul H. Monson as assistant professor of biology, Division of Science and Mathematics, Duluth Branch
B.A. 1950, Luther College; M.S. 1952, Ph.D. 1959, Iowa State College
- William H. Mullins as assistant professor of general education
B.A. 1950, Yale University; M.Ed. 1954, Harvard University; Ph.D. 1958, State University of Iowa
- James R. Murphy as assistant professor of music, Division of Humanities, Duluth Branch
B.Music 1940, Central College (Fayette, Missouri)
- Rupert I. Murrill as assistant professor of anthropology
B.Sc. 1940, McGill University (Canada); Ph.D. 1954, Columbia University
- Hendrick J. Oskam as assistant professor of electrical engineering
B.A. 1946, M.A. 1949, Ph.D. 1957, University of Utrecht
- David S. Palermo as assistant professor, Institute of Child Development and Welfare
B.S. 1951, Lynchburg College; M.S. 1952, University of Massachusetts; Ph.D. 1955, State University of Iowa
- Ruth F. Pennebaker as assistant professor, School of Nursing
B.S. 1949, George Peabody College for Teachers; M.P.H. 1955, University of Minnesota
- Ralph W. Peterson as assistant professor of electrical engineering
B.E.E. 1948, Ph.D. 1955, University of Minnesota
- Robert R. Pinches as assistant professor-assistant state leader 4-H Club, Agricultural Extension
B.S. 1940, Ohio State University; M.A. 1957, University of Minnesota
- James D. Ray as assistant professor of physical chemistry
B.S. 1947, M.S. 1951, Ph.D. 1955, Stanford University
- Eleanor L. Robinson as assistant professor, Institute of Child Development and Welfare
A.B. 1938, M.S. 1940, Ph.D. 1958, Pennsylvania State College
- Joseph V. Scaletti as assistant professor of animal husbandry
B.A. 1950, M.S. 1953, University of Connecticut; Ph.D. 1957, Cornell University
- Jerome W. Sidman as assistant professor of physical chemistry
B.A. 1951, New York University; M.A. 1952, Columbia University; Ph.D. 1955, University of California
- Sidney Simon as assistant professor of art and director of University Art Gallery
B.F.A. 1947, Carnegie Institute of Technology; M.A. 1950, Ph.D. 1956, Harvard University
- Francis J. Smith as assistant professor-extension economist marketing, Agricultural Extension
B.S. 1948, California State Polytechnic College; M.S. 1952, Purdue University

- Ivor P. Smyth as assistant professor of radiology
M.B. 1947, National University of Ireland; D.M.R.D. 1955, University of Liverpool, England
- David C. Snetsinger as assistant professor of poultry husbandry
B.S. 1952, M.S. 1957, University of Illinois
- Burton Stein as assistant professor of history
M.A. 1953, Ph.D. 1958, University of Chicago
- Holger R. Stub as assistant professor of sociology, Division of Social Sciences, Duluth Branch
B.A. 1948, M.A. 1950, University of Minnesota
- Brom Weber as assistant professor of English
B.S. 1938, City College of New York; M.A. 1955, University of Wyoming; Ph.D. 1957, University of Minnesota
- Stephen S. Winter as assistant professor of general chemistry
B.S. 1948, Albright College (Reading, Pennsylvania); Ph.D. 1953, Columbia University

APPOINTMENTS, 1959-60

Professors

- Marjorie M. Brown as professor of home economics education
B.S. 1936, Southwest Texas State Teachers College; Ed.M. 1944, Colorado State University; Ed.D. 1954, University of Illinois
- Walter H. Fink as clinical professor of ophthalmology
B.S. 1918, M.D. 1921, University of Minnesota; M.S. 1925, University of Pennsylvania
- Edna L. Fritz as professor and director of the School of Nursing
B.S. 1940, Russell Sage College; M.A. 1942, Ed.D. 1959, Teachers College, Columbia University
- Ephraim M. Sparrow as professor of mechanical engineering
B.S. 1948, M.S. 1949, Massachusetts Institute of Technology; M.A. 1950, Ph.D. 1956, Harvard University
- Harold W. Stevenson as director and professor, Institute of Child Development and Welfare
B.A. 1947, University of Colorado; M.A. 1948, Ph.D. 1951, Stanford University
- Carlo A. Terzuolo as professor of biophysics, Department of Physiology
M.D. 1949, University of Torino Medical School (Italy)

Associate Professors

- Charles Edwards as associate professor of physiology
B.A. 1945, M.A. 1948, Ph.D. 1953, Johns Hopkins University
- Edward A. Fletcher as associate professor of mechanical engineering
B.S. 1947, Wayne University; Ph.D., 1952, Purdue University
- John M. Gradwohl as associate professor, Law School
B.S. 1951, LL.B. 1953, University of Nebraska; LL.M. 1957, Harvard Law School
- James M. Henderson as associate professor of economics, School of Business Administration and Director of Research Economics Study of Upper Midwest Region
A.B. 1951, San Diego State College; M.A. 1954, Ph.D. 1955, Harvard University
- John A. Kundla as associate professor of physical education and athletics
B.S. 1939, M.Ed. 1942, University of Minnesota
- Robert J. Levy as associate professor, Law School
B.A. 1952, Kenyon College; LL.B. 1957, University of Pennsylvania
- Jack C. Merwin as associate professor of educational psychology and assistant director of Student Counseling Bureau
B.S. 1949, M.S. 1950, Ed.D. 1955, University of Illinois

Ingram Olkin as associate professor of statistics, College of Science, Literature, and the Arts

B.S. 1947, College of the City of New York; M.A. 1948, Columbia University; Ph.D. 1951, University of North Carolina

Orville C. Peterson as associate professor of political science and director of the Municipal Reference Bureau

B.A. 1928, Macalester College; LL.B. 1930, B.S. 1933, M.A. 1940, University of Minnesota

Karel M. van Vliet as associate professor of electrical engineering

B.S. 1949, M.S. 1953, Ph.D. 1956, Free University (Amsterdam, Netherlands) (research fellow 1956-57 and assistant professor 1957-58 at the University of Minnesota)

Assistant Professors

Raymond L. Arthaud as assistant professor and extension animal husbandman, Agricultural Extension

B.S. 1947, M.S. 1949, University of Nebraska; Ph.D. 1952, University of Missouri

Charles H. Backstrom as assistant professor political science

B.A. 1949, B.S. 1949, Moorhead State Teachers College; M.A. 1953, Ph.D. 1956, University of Wisconsin

Ward J. Barrett as assistant professor of geography

B.A. 1948, Columbia College; M.A. 1949, Teachers College of Columbia University; Ph.D. 1959, University of California

Benjamin H. Beard as assistant professor of agronomy and plant genetics

B.S. 1950, M.S. 1952, University of Missouri; Ph.D. 1955, University of Nebraska

Robert M. Benolken as assistant professor of zoology

B.S. 1954, Marquette University; Ph.D. 1959, Johns Hopkins University

Ernest G. Bormann as assistant professor of speech and theater arts

B.A. 1949, University of South Dakota; M.A. 1951, Ph.D. 1953, State University of Iowa

Charles J. Brokaw as assistant professor of zoology

B.S. 1955, California Institute of Technology; Ph.D. 1958, Kings College (University of Cambridge, England)

Arthur H. Bulbulian as assistant professor of medical education, Mayo Foundation

B.S. 1925, M.S. 1926, Middlebury College; D.D.S. 1931, University of Minnesota

Miriam R. Cohn as assistant professor in the School of Social Work

B.A. 1943, M.S.S.A. 1945, University of Pittsburgh

James C. Comeaux as assistant professor of languages, Division of Humanities, University of Minnesota, Duluth

B.A. 1957, Southwestern Louisiana Institute; M.A. 1959, University of Iowa

Lawrence E. Conroy as assistant professor of inorganic chemistry

B.S. 1949, University of Rhode Island; M.S. 1952, Ph.D. 1955, Cornell University

Stanley Crosbie as assistant dean for Veterans Administration Hospital Affairs and assistant professor of medicine

B.A. 1937, M.D. 1941, University of Minnesota

Richard J. FitzGerald as assistant professor and assistant dean, Law School

LL.B. 1959, University of Minnesota

Heinrich R. Fleischer as assistant professor and University Organist

State and church diplomas from the State Academy of Music, Weimar, 1932, Leipzig, 1934; Ph.D. 1941, University of Leipzig

Adriano M. Garsia as assistant professor of mathematics, College of Science, Literature, and the Arts

Graduate of the University of Rome, Italy; Ph.D. 1957, Stanford University

Charles D. Gorman as assistant professor of mathematics, College of Science, Literature, and the Arts

B.A. 1954, M.A. 1955, University of Missouri; Ph.D. 1958, Yale University

- Stephen G. Granger as assistant professor and counselor, University of Minnesota, Morris
 B.A. 1953, M.A. 1955, Ph.D. 1958, University of Minnesota
- Ian W. Gregory as assistant professor of psychiatry and neurology
 B.A. 1946, M.A. 1950, M.D. 1956 (University of Cambridge, England); M.P.H. 1959, University of Michigan
- George Hudson as assistant professor of anatomy
 B.S. 1946, M.B., Ch.B. 1949, Manchester University (England)
- Edwin Kinnen as assistant professor of electrical engineering
 B.S. 1949, University of Buffalo; M.Elec. Eng. 1950, Yale University; Ph.D. 1958, Purdue University
- Anne O. Krueger as assistant professor, School of Business Administration, Ford Foundation Economic Research and interdisciplinary studies in general education
 B.A. 1953, Oberlin College; M.S. 1956, Ph.D. 1958, University of Wisconsin
- Sanford Lipsky as assistant professor of physical chemistry
 B.A. 1950, Syracuse University; M.S. 1952, Ph.D. 1954, University of Chicago
- Robert S. Merrill as assistant professor anthropology, economics, and interdisciplinary studies in general education
 A.A. 1941, M.A. 1951, Ph.D. 1959, University of Chicago
- Cyril M. Milbrath as assistant professor of secondary education, University of Minnesota, Duluth
 B.S. 1942, M.A. 1955, University of Minnesota; Ph.D. 1957, Michigan State University (East Lansing)
- Shirley G. Moore as principal and assistant professor, Institute of Child Development and Welfare and Home Economics Education
 B.A. 1945, M.A. 1953, University of Chicago; Ph.D. 1960, State University of Iowa
- Albert J. Moscowitz as assistant professor of physical chemistry
 B.S. 1950, City College of New York; M.A. 1954, Ph.D. 1957, Harvard University
- Mary L. Muller as assistant professor extension specialist home improvement, Agricultural Extension
 B.S. 1941, Michigan State College; M.S. 1955, University of Illinois
- Patrick A. Ongley as assistant professor of pediatrics, Mayo Foundation
 M.D. 1944, Otago University, Dunedin, New Zealand
- John S. Pearson as assistant professor of clinical psychology, Mayo Foundation
 B.A. 1944, Gustavus Adolphus College; Ph.D. 1954, University of Minnesota
- William C. Phinney as assistant professor of geology and mineralogy
 B.S. 1953, M.S. 1956, Ph.D. 1959, Massachusetts Institute of Technology
- Robert C. Rathburn as assistant professor of literature and writing, General College
 B.A. 1941, M.A. 1942, Northwestern University; Ph.D. 1957, University of Minnesota
- Donald L. Richter as assistant professor in statistics, College of Science, Literature, and the Arts
 B.A. 1952, Bowdoin College; Ph.D. 1959, University of North Carolina
- Marcel K. Richter as assistant professor, Ford Foundation Research in economics and business administration
 B.A. 1954, Swarthmore College; Ph.D. 1959, Massachusetts Institute of Technology
- Edward G. Rippie as assistant professor, College of Pharmacy
 B.S. 1953, M.S. 1956, Ph.D. 1959, University of Wisconsin
- L. Edward Scriven, II as assistant professor of chemical engineering
 B.S. 1952, University of California; M.Chem.E. 1954, Ph.D. 1956, University of Delaware
- Reuben J. Silver as assistant professor in clinical psychology-psychiatry-neurology and University of Minnesota Hospitals
 B.A. 1945, Northeastern University; M.A. 1947, Harvard University; Ph.D. 1951, New York University

- John D. Smith as assistant professor of animal husbandry
B.S. 1951, Oregon State College; Ph.D. 1960, University of California
- Lawrence H. Smith as assistant professor of agronomy and plant genetics
B.S. 1952, M.S. 1955, Ph.D. 1959, Michigan State University
- Ralph E. Smith as assistant professor of medicine, Mayo Foundation
B.S. 1944, M.D. 1946, University of Minnesota
- Eugene E. Stish as assistant professor of physical education and athletics
B.S. 1947, Bemidji State College; M.A. 1951, Ph.D. 1958, State University of Iowa
- William H. J. Summerskill as assistant professor of medicine, Mayo Foundation
B.A. 1947, Oxford University Medical School; B.M., B.Ch. 1949, St. Mary's Hospital Medical School (London); M.D. 1955, Medical School of London
- Wendell M. Swenson as assistant professor of clinical psychology, Mayo Foundation
B.A. 1942, Gustavus Adolphus College; M.A. 1950, Ph.D. 1958, University of Minnesota
- Omar K. Tewfik as assistant professor of mechanical engineering
B.S. 1944, University of Cairo; B.S. 1949, University of London; M.S. 1955, University of Wisconsin; Ph.D. 1959, University of California
- R. Stuart Tobias as assistant professor of inorganic chemistry
B.S. 1952, Ph.D. 1956, Ohio State University
- James C. Underhill as assistant professor of zoology
B.A. 1949 (Duluth Branch), M.A. 1952, Ph.D. 1955, University of Minnesota
- David J. Vail as clinical assistant professor of psychiatry and neurology
M.D. 1948, Harvard University
- Hannah K. Walseth as assistant professor, School of Nursing
B.S. 1942, M.A. 1959, University of Minnesota
- Walter F. Wedin as assistant professor of agronomy and plant genetics
B.S. 1950, M.S. 1951, Ph.D. 1953, University of Wisconsin
- Tibor Zoltai as assistant professor of geology and mineralogy
B.S. 1955, University of Toronto; Ph.D. 1959, Massachusetts Institute of Technology

PROMOTIONS AND TRANSFERS, 1958-59

- Associate Dean and Associate Professor to Dean and Professor*
Robert B. Howard (medicine)
- Professor to Assistant Dean and Professor*
Clarence M. Stowe (College of Veterinary Medicine)
- Professor and Head Aeronautical Engineering to Professor and Director*
John D. Akerman (Rosemount Aeronautical Laboratories)
- Professor to Professor and Director*
Robert L. Jones (School of Journalism)
- Associate Professor and Director to Professor and Director*
Chester W. Wood (Duluth Branch—student personnel services)
- Associate Professor to Professor*
Harold B. Allen (English)
Jacob E. Bearman (School of Public Health)
Werner Boehm (School of Social Work)
Richard G. Bond (University Health Service—public health engineer)
Berry Campbell (anatomy)

BIENNIAL REPORT

Mark B. Coventry (Mayo Fd—orthopedic surgery)
 Lorenz E. A. Eitner (art)
 Gertrude Esteros (School of Home Economics)
 Donald J. Ferguson (general surgery)
 Robert J. Gorlin (School of Dentistry)
 Mark Graubard (interdisciplinary studies in general education)
 Franz Halberg (cancer biology)
 James P. Hartnett (mechanical engineering)
 Lyle J. Hay (general surgery)
 Frederick W. Hoffbauer (internal medicine)
 Ralph L. Hossfeld (School of Forestry)
 Herbert S. Isbin (chemical engineering)
 Otto H. Johnson (inorganic chemistry)
 Ruth V. Johnston (School of Nursing)
 Edward H. Lambert (physiology—Mayo Fd)
 Wilbur L. Layton (student counseling bureau)
 Carlos Martinez (physiology)
 Allan H. McCoid (Law School)
 Gayle W. McElrath (mechanical engineering)
 Gordon M. A. Mork (general education)
 John Neter (School of Business Administration)
 Magnus Olson (zoology)
 Herman Ramras (German)
 Maynard C. Reynolds (general education)
 William A. Rosenthal (Duluth Branch—English)
 Leonard M. Schuman (School of Public Health)
 Ernst Simonson (School of Public Health)
 Arthur E. Smith (Duluth Branch—art)
 Malcolm B. Stinson (School of Social Work)
 Harold B. Swanson (Institute of Agriculture—Information Service)
 Mildred C. Templin (Institute of Child Development and Welfare)
 Thomas L. Waterbury (Law School)
 C. Arthur Williams, Jr. (School of Business Administration)
 John R. Winckler (School of Physics)

Assistant Professor and Director to Associate Professor and Director

F. Lloyd Hansen (correspondence study instruction)

Associate Professor to Associate Professor and Chairman

John Bowditch (history)

Research Associate and Assistant Professor to Associate Professor

George W. England (Industrial Relations Center)
 Thomas Mahoney (Industrial Relations Center)

Assistant Professor to Associate Professor

Robert Ames (interdisciplinary studies in general education)
 Glen E. Baxter (SLA—mathematics)
 Robert L. Bliss (School of Architecture)
 S. Gaylen Bradley (bacteriology)
 Charles W. Carr (physiological chemistry)
 William Cohen (Law School)
 Reynold P. Dahl (agricultural economics)
 Paul Fetler (music)
 Joseph G. Gall (zoology)
 Anand P. Chaudhry (School of Dentistry)
 Edmund F. Graham (dairy husbandry)
 Eugene D. Grim (physiology)
 Ruth Hovde (medical technology)
 Z Zimmerman Hugus, Jr. (inorganic chemistry)
 Thomas F. Irvine, Jr. (mechanical engineering)

Lawrence Johnston (School of Physics)
 Curtis L. Larson (agricultural engineering)
 Edith M. Lentz (Medical Sciences—Division of Hospital Administration)
 Jerome Liebling (art)
 Ellis Livingston (Duluth Branch—history)
 Paul H. Lober (pathology)
 Lawrence Markus (IT—mathematics)
 Fletcher A. Miller (general surgery)
 Forrest G. Moore (Foreign Student Adviser)
 Thomas Morley (botany)
 David W. Noble (history)
 Truman Nodland (agricultural economics)
 Wayland E. Noland (organic chemistry)
 Katsuhiko Ogata (mechanical engineering)
 Joseph H. Pratt (Mayo Fd—surgery)
 Francis V. Raab (philosophy)
 Lewis J. Rickert (Duluth Branch—physical education for men)
 Edgar Reich (IT—mathematics)
 George P. Sayre (Mayo Fd—pathologic anatomy)
 Leon Singer (physiological chemistry)
 Leon A. Snyder (agronomy and plant genetics)
 Grover C. Stephens (zoology)
 D. Burnham Terrell (philosophy)
 William H. Warner (aeronautical engineering)
 Richard E. Widmer (horticulture)
 Robert D. Wirt (clinical psychology)

Clinical Associate Professor to Clinical Associate Professor and Director

William C. Bernstein (proctology)

Clinical Assistant Professor to Clinical Associate Professor

Joseph F. Borg (medicine)
 Robert A. Green (medicine)
 John W. LaBree (medicine)
 Harold E. Miller (medicine)
 Herbert F. R. Plass (medicine)
 A. Boyd Thomes (medicine)

Lecturer to Associate Professor

Arthur J. Larsen (Duluth Branch—history)

Director and Assistant Professor Continuation Medical Education and Assistant Dean to Assistant Dean and Assistant Professor

N L Gault (Medical Sciences)

Research Associate to Assistant Professor

K. F. Gerhard Brand (bacteriology and immunology)
 August R. Hanson (aeronautical engineering)
 Florian I. Lauer (horticulture)

Instructor to Assistant Professor

Donald G. Aronson (IT—mathematics)
 Lloyd G. Bartholomew (Mayo Fd—medicine)
 Robert O. Brandenburg (Mayo Fd—medicine)
 George U. Brauer (IT—mathematics)
 Bruce A. Brown (Cloquet Forest Research Center)
 Edmund C. Burke (Mayo Fd—pediatrics)
 George S. Bush (School of Journalism)
 Naomi C. Chase (student teaching)

John N. Clausen (mechanical engineering)
 Joseph Davidson (anatomy)
 David G. Decker (Mayo Fd—obstetrics and gynecology)
 James H. DeWeerd (Mayo Fd—urology)
 Saul Engelbourg (interdisciplinary studies in general education)
 Edward C. Frederick (N.W. School and Station, Crookston)
 Esther F. Freier (medical technology)
 Robert P. Gage (Mayo Fd—biometry and medical statistics)
 Ray W. Gifford (Mayo Fd—medicine)
 Ivar A. Glemming (School of Agriculture)
 John B. Gross (Mayo Fd—medicine)
 Einer W. Johnson, Jr. (Mayo Fd—orthopedic surgery)
 Clara Kanun (interdisciplinary studies in general education)
 Stanley B. Kegler (University High School)
 Leslie A. King (General College—psychological studies)
 William Krivet (pediatrics)
 John A. Logothetis (multiple sclerosis clinic)
 William J. Martin (Mayo Fd—medicine)
 Norman W. Moen (General College)
 Wallace W. Nelson (N.E. Experiment Station—Duluth)
 R. Norine Odland (general education)
 Robert T. Patrick (Mayo Fd—anesthesiology)
 Philip W. Porter (geography)
 Konald A. Prem (obstetrics and gynecology)
 Wentworth Quast (child psychiatry)
 John D. Ross (bacteriology)
 John R. Thompson (Southern School of Agriculture—Waseca)
 Fernando Torres (University Hospitals—psychiatry and neurology)
 Forrest L. Vance (Student Counseling Bureau)
 John W. Webb (geography)
 Ruth D. Weise (School of Nursing)
 Gerhard H. Weiss (German)
 Ralph E. Williams (School of Agriculture)
 Frederick Witzig (Duluth Branch—geography)

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

Theodore Volsky (Student Counseling Bureau)

Assistant Professor and Acting Head to Assistant Professor and Head

Ruth H. Richards (Duluth Branch—physical education for women)

Assistant Professor and Director Cancer Detection Center to Director of the Department of Continuation Medical Education and Assistant Professor

W. Albert Sullivan (College of Medical Sciences)

Clinical Instructor to Clinical Assistant Professor

Eldon B. Berglund (pediatrics)
 Robert P. Bush (psychiatry and neurology)
 William R. Fifer (medicine)
 John J. Galligan (pediatrics)
 John E. Holt (medicine)
 Andrew J. Leemhuis (psychiatry and neurology)
 Joyce S. Lewis, Jr. (psychiatry and neurology)
 Robert E. Lindell (medicine)
 George W. Lund (pediatrics)
 James C. Mankey (medicine)
 Charles N. McCloud (medicine)
 Burtis J. Mears (medicine)
 Richard S. Rodgers (urology)
 Charles D. Simpson (School of Dentistry)

Lecturer to Assistant Professor

Nicholas A. Glaskowsky (Ford Fd Research Economics and Business)
 Norman C. Nagle (School of Architecture)
 Mayo K. Newhouse (School of Social Work)
 Joseph M. Shelley (School of Architecture)

Visiting Lecturer to Assistant Professor

John D. Hurrell (English)

Lecturer to Clinical Preceptor

Harold C. Mickey (School of Public Health)

PROMOTIONS AND TRANSFERS, 1959-60

Assistant to the President to Vice President and Administrative Assistant

Stanley J. Wenberg (President's Office)

Comptroller-Treasurer and Professor to Vice President of Business Administration Secretary of the Board of Regents and Professor

Laurence R. Lunden

Assistant Comptroller to Comptroller and Treasurer

Edwin C. Jackson (served from July 1 to September 24, 1959—died September 24)

Director of University Services to Comptroller and Treasurer

Clinton T. Johnson

Professor to Professor and Head

Samuel T. Coulter (dairy industries)

Professor to Professor and Chairman

Donald K. Smith (speech and theater arts)

Associate Professor to Professor

Alvin G. Anderson (civil engineering)
 Joseph T. Anderson (School of Public Health)
 William H. Bickel (Mayo Fd—surgery)
 Perry L. Blackshear, Jr. (mechanical engineering)
 John Bowditch (history)
 May Brodbeck (philosophy)
 Anand P. Chaudhry (School of Dentistry)
 Theodore W. Clymer (elementary education)
 Maynard Cohen (neurology)
 John J. Cound (Law School)
 Richard J. Donnelly (physical education and athletics)
 Donald P. Duncan (School of Forestry)
 William H. Edson (student personnel office)
 Roy G. Francis (sociology)
 Bernard C. Glueck, Jr. (psychiatry)
 John H. Grindlay (Mayo Fd—surgical research)
 Howard G. Hanson (Duluth Branch—physics)
 James F. Hogg (Law School)
 Clifford P. Hooker (educational administration)
 Robert W. House (Duluth Branch—music)
 Warren E. Ibele (mechanical engineering)
 James J. Jenkins (psychology)

Bjarni Jonsson (SLA—mathematics)
 Yale Kamisar (Law School)
 Fred L. Kildow (School of Journalism)
 Harry W. Kitts (agricultural education)
 Jean W. Lambert (agronomy and plant genetics)
 Robert F. Lambert (electrical engineering)
 Willard R. Lane (educational administration)
 Irvin E. Liener (agricultural biochemistry)
 Warren S. Loud (SLA—mathematics)
 Robert J. Meade (animal husbandry)
 Clark H. Millikan (Mayo Fd—neurology)
 Allan H. Morrish (electrical engineering)
 Andrew T. Morstad (School of Dentistry)
 Robert E. Nylund (horticulture)
 A. Neil Pearson (Duluth Branch—sociology)
 Robert F. Pierce (Duluth Branch—speech and dramatics)
 Walter W. Quirt (art)
 Ephraim Rosen (psychology)
 Wallace A. Russell (psychology)
 Henriette E. Saloshin (School of Social Work)
 Stanley Schachter (psychology)
 William F. Scherer (bacteriology)
 William Schofield (clinical psychology)
 George Seltzer (business administration)
 Hubert H. Serr (School of Dentistry)
 Dale K. Sorensen (College of Veterinary Medicine)
 Donald Torbert (art)
 E. Paul Torrance (Bureau of Educational Research)
 John E. Turner (political science)
 Frank Verbrugge (physics)
 George A. Warp (Public Administration Center)
 Ward M. Wells (Duluth Branch—physical education for men)
 Albert K. Wickesberg (business administration)
 Benjamin Willerman (Student Counseling Bureau)
 Herbert E. Wright (geology and mineralogy)
 Raimunds Zemjanis (veterinary obstetrics)
 Bernard Zimmermann (general surgery)

Clinical Associate Professor to Clinical Professor

J. Richards Aurelius (radiology)
 William C. Bernstein (proctology)
 Arnold J. Kremen (general surgery)
 Oscar Lipschultz (radiology)
 Robert E. Priest (otolaryngology)
 Sherwood R. Steadman (School of Dentistry)
 Theodore H. Sweetser (urology)

Associate Professor and Associate Chairman to Associate Professor and Associate Dean Institute of Technology

Frank Verbrugge (physics)

Associate Professor to Associate Professor and Chairman

Richard B. Mather (Slavic and Oriental Languages)

Associate Professor to Associate Professor and Superintendent

Rodney A. Briggs (West Central School and Experiment Station)

Agricultural Agent and Associate Professor to Associate Professor and District Supervisor

Wayne H. Hanson (agricultural extension)

Associate Professor to Assistant Dean and Associate Professor

Richard M. Magraw (psychiatry, neurology and medicine)

Assistant Professor to Associate Professor

Paul W. Bamford (history)
 Oliver H. Beahrs (Mayo Fd—surgery)
 Stanley Bruckenstein (analytical chemistry)
 Daniel Bryan (interdisciplinary studies in general education)
 Joseph J. Buckley (anesthesiology)
 H. Mead Cavert (Medical Sciences—administration)
 James C. Cain (Mayo Fd—medicine)
 Rudolph J. Capobianco (psycho-educational clinic)
 Anna M. Carpenter (anatomy)
 David T. Carr (Mayo Fd—medicine)
 Paul A. Cartwright (electrical engineering)
 Paul H. Cashman (rhetoric)
 Frederick M. Chapman (physical education and athletics for men)
 David Cooperman (interdisciplinary studies in general education)
 David Daly (Mayo Fd—neurology)
 Don Davies (student teaching)
 George A. Donohue (agricultural extension)
 Robert M. Eisberg (physics)
 N L Gault (Medical Sciences—administration)
 Gerald A. Gladstein (Duluth—psychology)
 Leon W. Green (IT—mathematics)
 Ruth E. Green (Duluth—laboratory school)
 Vivian H. Hewer (student counseling bureau)
 John M. Higbee (veterinary diagnostic laboratories)
 Herbert M. Hirsch (cancer biology)
 Corrin H. Hodgson (Mayo Fd—medicine)
 Robert W. Hollenhorst (Mayo Fd—ophthalmology)
 William F. Hueg, Jr. (agricultural extension)
 Eugene Johnson (School of Public Health)
 John H. Kareken (economics)
 Paul J. Kellogg (physics)
 William D. Kelly (general surgery)
 Howard F. Koeper (School of Architecture)
 Maurice M. Kreevoy (organic chemistry)
 Blanchard O. Krogstad (Duluth—biology)
 Washington D. Lacabanne (School of Mines and Metallurgy)
 Richard G. Lester (radiology)
 Albert J. Linck (plant pathology and botany)
 Richard H. Lyon (electrical engineering)
 Leroy C. McLaren (bacteriology)
 Theodore J. Mentel (aeronautical engineering)
 Frank Morrell (neurology)
 Donald W. Mulder (Mayo Fd—neurology)
 William D. Munro (IT—mathematics)
 Rupert Murrill (anthropology)
 Juliette I. Myren (home economics)
 Glenn C. Nelson (Duluth—art)
 Gerhard Neubeck (student counseling bureau)
 Mayo K. Newhouse (School of Social Work)
 James C. Nichol (Duluth—chemistry)
 Steven Orey (SLA—mathematics)
 Hendrik J. Oskam (electrical engineering)
 Harold C. Pederson (agricultural extension)
 Luther J. Pickrel (agricultural extension)
 Robert R. Pinches (agricultural extension)
 Mabel Powers (SLA—upper division)
 Alton L. Raygor (student counseling bureau)
 Benjamin R. Reiter (University Health Service)

Armand A. Renaud (Romance languages)
 Yoshio Sako (general surgery)
 Robert M. Salassa (Mayo Fd—medicine)
 T. Michael Sanders, Jr. (physics)
 Patarasp R. Sethna (aeronautical engineering)
 Richard M. Shick (Mayo Fd—medicine)
 Wilfred O. Stout (General College—social studies)
 Melvin W. Stromberg (veterinary anatomy)
 Armas W. Tamminen (Duluth—psychology)
 Willard W. Tennyson (educational psychology)
 John W. Wakely (School of Dentistry)
 L. Emmerson Ward (Mayo Fd—medicine)
 Lee W. Wattenberg (pathology)
 Bernard Weiser (music)
 Horace H. Zinneman (medicine)

Clinical Assistant Professor to Clinical Associate Professor

Samuel B. Feinberg (radiology)
 Howard M. Frykman (proctology)
 Gove Hambidge, Jr. (psychiatry-neurology)
 Conrad J. Holmberg (otolaryngology)
 Harold E. Hullsiek (proctology)
 George C. Lawther (School of Dentistry)
 Maynard C. Nelson (general surgery)
 Robert N. Nelson (School of Dentistry)
 Clarence N. Reiersen (School of Dentistry)
 Clarence J. Rowe, Jr. (psychiatry-neurology)
 Hildred Schuell (psychiatry-neurology)

Clinical Instructor to Clinical Associate Professor

O. L. Norman Nelson (medicine)

Assistant Professor to Assistant Director and Assistant Professor

D. Drew Miller (Mayo Fd—medicine)

Instructor to Assistant Professor

Dominick J. Argento (music)
 Robert C. Bahn (Mayo Fd—pathology)
 Bruce E. Balow (psycho-educational clinic)
 William J. Bemrick (veterinary pathology and parasitology)
 Heinz W. Berendes (pediatrics)
 Emmett N. Bergman (veterinary physiology)
 Karl R. Bornhoft (West Central School and Experiment Station)
 James C. Broadbent (Mayo Fd—medicine)
 James F. Burks (Romance languages)
 Donald H. Clifford (veterinary surgery and radiology)
 Glenn H. Daniels (West Central School and Experiment Station)
 Douglas M. Dearden (General College—biological science)
 Robert L. Faucett (Mayo Fd—psychiatry)
 John Forster (sociology)
 Joseph A. Gibilisco (Mayo Fd—dental surgery)
 Norman P. Goldstein (Mayo Fd—neurology)
 Lorraine M. Gonyea (medical technology)
 Richard Greenspan (radiology)
 Anna T. Hampel (School of Dentistry)
 Harley E. Hanke (West Central School and Experiment Station)
 Lawrence R. Harper (SLA—mathematics)
 Lerner Hinshaw (physiology)
 James E. Holte (electrical engineering)
 George L. Houle (music)

J. Vernon Jensen (interdisciplinary studies in general education and speech and theater arts)
 Edna K. Jordahl (agricultural extension)
 Thomas P. Kearns (Mayo Fd—ophthalmology)
 Norman S. Kerr (zoology)
 Lewis D. Levang (Duluth—English)
 Keith Loken (veterinary bacteriology and public health)
 Theodore G. Martens (Mayo Fd—ophthalmology)
 Elaine D. McMaster (medical technology)
 Jay C. Meiske (animal husbandry)
 Norman G. Meyers (IT—mathematics)
 Verna A. Mikesch (agricultural extension)
 Guy H. Miles (clinical psychology)
 Donald E. Olson (Duluth—physics)
 Alan L. Orvis (Mayo Fd—biophysics)
 John F. Perry, Jr. (general surgery)
 Jesse H. Pomroy (agricultural engineering)
 Raymond V. Randall (Mayo Fd—medicine)
 Diedrich Reimer (Northwest School and Experiment Station)
 William H. ReMine, Jr. (Mayo Fd—surgery)
 Randolph A. Rovelstad (Mayo Fd—medicine)
 Robert Q. Royer (Mayo Fd—dental surgery)
 Joseph G. Ruchton (Mayo Fd—neurology)
 August B. Salmela (North Central School—Grand Rapids)
 Harold H. Scudamore (Mayo Fd—medicine)
 Robert G. Siekert (Mayo Fd—neurology)
 Marvin E. Smith (agricultural extension)
 Edward H. Soule (Mayo Fd—pathology)
 M. Lee Taylor (sociology)
 Roy L. Thompson (West Central School and Experiment Station)
 Naip Tuna (medicine)
 Richard K. Winkelmann (Mayo Fd—dermatology)
 Willis L. Winter (School of Journalism)
 William E. Wright (history)
 Sarah A. Youngblood (English)

Research Associate to Assistant Professor

Rouse S. Farnham (soils)

Clinical Instructor to Clinical Assistant Professor

Herman T. Aeziman (School of Dentistry)
 Donald G. Bohn (medicine)
 Llewellyn E. Christensen (ophthalmology)
 David M. Craig (medicine)
 Leo J. Hanvik (psychiatry-neurology)
 Melvin C. Humbert (School of Dentistry)
 Milton M. Hurwitz (medicine)
 Bourne Jerome (ophthalmology)
 Rad M. Jevric (School of Dentistry)
 Frank E. Johnson (general surgery)
 Herbert W. Johnson (medicine)
 David G. Jones (medicine)
 Bradley W. Kusske (otolaryngology)
 Davey E. Lieb (School of Dentistry)
 Vernon L. Lindberg (ophthalmology)
 Russell C. Lindgren (medicine)
 George D. MacGibbon (School of Dentistry)
 Charles B. McAllister (School of Dentistry)
 Malcolm A. McCannel (ophthalmology)
 Loren E. Nelson (proctology)
 Alan P. Rusterholz (medicine)
 Howard A. Shaw (ophthalmology)

Philip H. Soucheray (medicine)
 Richard B. Tregilgas (medicine)
 A. Cabot Wohlrabe (medicine)

Instructor to Clinical Assistant Professor

Robert E. Doan (medicine)

Principal Student Personnel Worker to Assistant Professor and Associate Director

Donald R. Zander (Office of the Dean of Students—Student Activities Bureau)

Director of Student Activities Bureau to Assistant Professor and Director

Paul A. Bloland (Office of the Dean of Students—Student Activities Bureau)

Senior Student Personnel Worker to Assistant Professor

Hugh J. McCardle (Bureau of Student Loans)
 Josef A. Mestenhauer (Office of the Dean of Students—Foreign Student Adviser)

Lecturer to Assistant Professor

Marcel K. Richter (School of Business Administration)

Visiting Lecturer to Assistant Professor

Norman J. Simler (economics)

LEAVES OF ABSENCE, 1958-59

- William H. Crawford, dean and professor in School of Dentistry, with salary September 16, 1958 to June 30, 1959, on account of illness.
- J. William Buchta, professor in School of Physics and associate dean of College of Science, Literature, and the Arts, without salary May 26, 1958 to January 31, 1959, to participate administratively in program of the National Science Foundation, and sabbatical furlough February 1 to September 15, 1959, to observe state educational system based on junior colleges and participate in seminars at the University of California, Berkeley.
- Gaylord W. Anderson, Mayo professor and director in School of Public Health, 60% time leave with salary and 40% without salary September 17 to November 26, 1958, to serve as medical consultant under the auspices of the World Health Organization visiting schools of public health in India and Egypt and appraising proposal for a school in Iran.
- H. Harvard Arnason, professor and chairman of art, continuation of 20% time leave without salary September 16, 1958 to June 30, 1959, to serve as Walker Art Center director, and 100% time leave without salary February 1 to June 15, 1959, to serve as visiting professor at the University of Hawaii.
- Abe B. Baker, professor and director, Division of Neurology, sabbatical furlough January 1 to June 15, 1959, for research at the University of Oslo, Norway.
- Sherwood O. Berg, professor and head of agricultural economics, with salary July 28 to September 26, 1958, to visit Korea and Seoul National University and attend International Conference of Agricultural Economists at Mysore, India.
- Emma M. Birkmaier, professor in University High School and general education, without salary for fall quarter of 1958-59, to accept position as program coordinator for international group of twenty-six secondary school teachers attending the University of Kansas under the auspices of the International Teacher Development Program Division of International Education, United States Office of Education.

- Guy L. Bond, professor of general education, 75% time leave without salary for spring quarter of 1958-59, to complete some writing.
- Richard G. Bond, professor and public health engineer, University Health Service, 50% time leave with salary and 50% time leave without salary April 1-30, 1959, to present paper at International Seminar on Health Education in England and study environmental health programs in Great Britain.
- Nelson L. Bossing, professor of general education, sabbatical furlough for fall quarter of 1958-59, to accept Fulbright award at the University of Chile to continue studies of educational systems and cultures.
- Josef Brozek, professor laboratory of physiological hygiene, School of Public Health, without salary February 1, 1959 to January 31, 1960, to serve as chairman of department of psychology at Lehigh University, Bethlehem, Pennsylvania.
- Theodore Caplow, professor of sociology, without salary for winter and spring quarters of 1958-59, to direct study of the Social Consequences of Public Planning for government of Puerto Rico at the University of Puerto Rico.
- Norman H. Ceaglske, professor of chemical engineering, sabbatical furlough for 1958-59, to accept Fulbright research award at the Norwegian Institute of Technology, Trondheim, Norway.
- John O. Christianson, professor and superintendent, School of Agriculture, with salary March 16 to June 15, 1959, on account of illness.
- Willard W. Cochrane, professor of agricultural economics, without salary September 16, 1958 to June 30, 1959, to serve as visiting professor at the University of Chicago.
- Willes B. Combs, professor of dairy husbandry, with salary November 17, 1958 to May 15, 1959, on account of illness.
- Adrianus J. Dekker, professor of electrical engineering, sabbatical furlough for 1958-59, to study transport phenomena in alloys at the University of Leiden and other European laboratories.
- Ernst R. G. Eckert, professor of mechanical engineering, with salary August 21 to September 15, 1958, to attend ninth Congress of International Astronautical Federation at Amsterdam, Holland and give lecture at First International Congress in the Aeronautical Sciences at Madrid, Spain.
- Allen W. Edson, professor and superintendent West Central School and Experiment Station, with salary August 25 to October 31, 1958, on account of illness.
- Selmer A. Engene, professor of agricultural economics, without salary August 1-22, 1958, and with salary August 23 to September 27, 1958, to participate in Farm Management Research Institute for farm management research workers in universities and governmental service in Japan; attend International Conference of Agricultural Economists in Mysore, India; and visit universities and research institutes in Scandinavian countries and Great Britain.
- David Glick, professor of physiological chemistry, for 1958-59 with salary paid by Commonwealth Fund through the University of Minnesota, for advanced studies and consultations in Sweden, Denmark, Italy, and Russia.
- James P. Hartnett, professor of mechanical engineering, without salary for fall quarter of 1958-59, to do research with the Rand Corporation.
- Paul L. Holmer, professor of philosophy, without salary for fall quarter of 1958-59, to accept appointment as a Tucker Foundation Fellow at Dartmouth College.
- Theodore Hornberger, professor and chairman of English, sabbatical furlough for 1958-59, to study in Scotland and Ireland on the scientific ideas of the English Puritans.
- Leonid Hurwicz, professor of economics and mathematics in School of Business Administration, sabbatical furlough for fall and winter quarters of 1958-59, and without salary for spring quarter to study at Stanford University on a Rockefeller Foundation grant.
- Richard C. Jordan, professor and head of mechanical engineering, with salary September 16-22, 1958, to serve as Official Observer, National Academy of Sciences-National Research Council and delegate to Executive Committee of Institut Internationale du Froit from NAS-NRC to International Com-

- mission meeting in Moscow and Prague; member of delegation from U.S.A. to International Organization for Standardization, London, England.
- Robert J. Keller, professor College of Education and director University High School, continuation of 50% time leave without salary July 1 to December 31, 1958, to serve with the Legislative Interim Commission on Higher Education.
- Donald B. Lawrence, professor of botany, sabbatical furlough for 1958-59, to travel widely to study topography as an ecological factor, gather information on annual production of organic matter by various kinds of vegetations throughout the world, and study plants of special usefulness to man.
- Werner Levi, professor of political science, sabbatical furlough for 1958-59, to do field work in international relations in Geneva, Switzerland, toward completion of a study on the fundamentals of world politics.
- William A. McDonald, professor of classics, sabbatical furlough for 1958-59, to do field work on the topography and toponomy of southwestern Greece.
- William J. Micheels, professor and chairman of trade and industrial education, without salary for 1958-59, to serve as consultant to study committee of the Indonesian Ministry of Education and adviser to the Ford Foundation.
- William Van O'Connor, professor of English, without salary for fall quarter of 1958-59, to fill the Berg Professorship at New York University, and sabbatical furlough December 16, 1958 to June 15, 1959 to write book on the New University Wits.
- Edgar L. Piret, professor of chemical engineering, without salary April 1 to June 15, 1959, to serve as science attaché to the Department of State, United States Embassy in Paris, France.
- Philip M. Raup, professor of agricultural economics, with salary August 18 to October 17, 1958, to participate in Minnesota Faculty Seminar in USSR.
- Henry W. Riecken, Jr., professor of sociology and Laboratory for Research in Social Relations, without salary August 1, 1958 to June 30, 1959, to serve as program director for Social Science Research with the National Science Foundation.
- Paul C. Rosenbloom, professor of mathematics in Institute of Technology, without salary for 1958-59, to serve as director of Minnesota National Laboratory for the Improvement of Secondary School Mathematics with the State Department of Education for 50% time and as director of writing project under auspices of the School Mathematics Study Group, a national program sponsored by the American Mathematical Society for 50% time.
- Ralph G. Ross, professor of interdisciplinary studies in general education, sabbatical furlough for 1958-59, to accept Bollingen Foundation Fellowship to write book on aesthetics.
- Wilfrid S. Sellars, professor of philosophy, without salary for 1958-59, to serve as visiting professor at Yale University.
- Dorothy Simmons, professor-state leader of home economics, Agricultural Extension, sabbatical furlough February 2 to June 6, 1959, to study at National Agricultural Extension Center for Advanced Study at the University of Wisconsin.
- Ernst Simonson, professor in School of Public Health, continuation of 30% time leave without salary September 16, 1958 to June 30, 1959, for outside consultation.
- Robert F. Spencer, professor of anthropology, without salary March 16 to June 15, 1959, to serve as visiting professor at Northwestern University.
- Lorenz G. Straub, professor of civil engineering and head of hydraulics laboratory, continuation of 20% time leave without salary for 1958-59, for personal reasons to permit more effective service in the direction of major engineering projects and professional objectives.
- Harold B. Swanson, professor and editor information service in Institute of Agriculture, with salary May 25 to June 6, 1959, on account of illness.
- Allen Tate, professor of English, sabbatical furlough for 1958-59, to accept Fulbright grant at Oxford University.
- Stefan E. Warschawski, professor and head of mathematics in Institute of Technology, without salary for 1958-59, to serve as visiting professor at the University of California, Los Angeles.

- Cecil J. Watson, professor and head of medicine, sabbatical furlough for 1958-59, for research and writing and to attend the International Congress of Biochemistry in Vienna and the International Congress of Hematology in Rome.
- John H. Williams, professor in School of Physics, without salary for 1958-59, to continue work as head of Research Division of Atomic Energy Commission, Washington, D.C.
- Dale Yoder, professor in School of Business Administration, without salary for 1958-59, to serve as visiting professor at Stanford University.
- Harold B. Allen, associate professor of English, without salary for 1958-59, to accept a state department Smith-Mundt grant, serve as linguistic consultant to the Ministry of Education, and accept an affiliation with one of the Egyptian national universities.
- Fred H. Blum, associate professor of interdisciplinary studies in general education, without salary for 1958-59, to work on project for the Friends Service Committee in England.
- May Brodbeck, associate professor of philosophy, sabbatical furlough for 1958-59, to write book on the philosophy of the social sciences.
- Frank Buckley, associate professor of English, sabbatical furlough for 1958-59, to visit schools, art galleries, libraries, and various places of historic and literary interest in Australia, India, North Africa, Europe, and England.
- Eugenio Calabi, associate professor of mathematics in Institute of Technology, without salary for 1958-59, for research at the Institute for Advanced Study at Princeton, New Jersey, under a National Science Foundation grant.
- Warren B. Cheston, associate professor in School of Physics, without salary for winter and spring quarters of 1958-59, to accept Fulbright Fellowship for study at the University of Utrecht.
- Edward Coen, associate professor of economics in School of Business Administration, without salary for 1958-59, to teach at the University of California, Berkeley.
- Maynard M. Cohen, associate professor of psychiatry and neurology, continuation of leave without salary September 16-30, 1958, for study in England on a United States Public Health Service grant.
- Raymond O. Collier, Jr., associate professor of general education, without salary for 1958-59, to attend Iowa State College as National Science Post-doctoral fellow for advanced courses in statistics.
- Allen Downs, associate professor of art, sabbatical furlough for 1958-59, to continue work on film documentation of the life of the blue wing teal, and to draw and paint in Mexico.
- Dorothy T. Dyer, associate professor of interdisciplinary studies in general education, sabbatical furlough for fall quarter of 1958-59, to study family life education at Los Gatos, California.
- Amy J. Holmblade, associate professor of home economics education, without salary June 16 to July 15, 1959, to teach in Hawaii.
- Thomas B. Irving, associate professor of Romance languages, without salary for 1958-59, to accept visiting professorship at the University of Texas to organize a center for Arabic studies.
- Robert E. Jacobs, associate professor extension animal husbandman Agricultural Extension, with salary September 8 to October 11, 1958, and March 9 to June 6, 1959, on account of illness.
- James J. Jenkins, associate professor of psychology, without salary for 1958-59, to serve as fellow at Center for Advanced Study in the Behavioral Sciences at Palo Alto, California.
- Murray Krieger, associate professor of English, without salary for 1958-59, to serve as visiting professor at the University of Illinois.
- Millard H. LaJoy, associate professor of mechanical engineering, without salary for 1958-59, to write a book and take short courses in the field of instrumentation offered by Taylor Instrument Company, Brown Instrument Company, and Foxboro.
- Jacob C. Levenson, associate professor of English, without salary for winter and spring quarters of 1958-59, to accept a Guggenheim Fellowship in England.

- Forrest G. Moore, associate professor of education and principal student personnel worker, Office of the Dean of Students Foreign Students Adviser's Office, 50% time leave August 16 to November 30, 1958, 100% time leave December 1, 1958 to March 31, 1959 for overseas, and 65% time leave April 1 to June 30, 1959 with salary paid by Carnegie Foundation grant through the University of Minnesota, to conduct special study of continuing relationships with foreign students.
- Arthur E. Naftalin, associate professor of political science, without salary for 1958-59, to continue to serve as State Commissioner of Administration.
- Burton Paulu, associate professor and director of radio and television broadcasting, sabbatical furlough September 15, 1958 to September 15, 1959, to do research and writing about radio and television broadcasting in the United Kingdom and continental European countries.
- Ruby B. Pernell, associate professor in School of Social Work, without salary for 1958-59, to complete work for Ph.D. degree at London School of Economics, England.
- Stephen Prager, associate professor in School of Chemistry, sabbatical furlough for 1958-59, to develop a workable theory of diffusion and viscous flow of liquid mixtures at the University of Brussels, Belgium.
- Hylton A. Thomas, associate professor of art, sabbatical furlough for 1958-59, to complete research in Europe on G. B. Tiepolo and begin research on German and Austrian 18th century painting.
- Walter K. Vivrett, associate professor in School of Architecture, without salary June 1-15, 1959, to work in Washington, D.C. for Housing and Home Finance Agency.
- Ralph W. Wayne, associate professor Agricultural Extension dairyman, without salary June 11 to July 15, 1959, for additional vacation time for trip to Europe.
- Hidehiko Yamabe, associate professor of mathematics in Institute of Technology, without salary for 1958-59, to accept visiting professorship at Osaka University in Japan.
- Earl S. Bergerud, assistant professor district 4-H Club leader Agricultural Extension, sabbatical furlough October 27, 1958 to June 30, 1959, for study toward Master's degree at University of Minnesota.
- Charles A. Brekke, clinical assistant professor in School of Dentistry, with salary May 5 to June 5, 1959, on account of illness.
- Ann P. Callahan, assistant professor in Library School, without salary for fall quarter of 1958-59, in lieu of release from summer school teaching.
- Louise T. Dossdall, assistant professor of plant pathology and botany, continuation of leave with salary August 1 to September 30, 1958, on account of illness.
- Allen L. Downs, assistant professor of music, Division of Humanities, Duluth Branch, sabbatical leave for 1958-59, for work on degree of doctor of musical arts at the University of Illinois.
- Darrell F. Fienup, assistant professor of agricultural economics, without salary July 1-31, 1958, to assist in special report on unemployment compensation for State Department of Employment and Security.
- Orazio Fumagalli, assistant professor of art, Division of Humanities, Duluth Branch, 33% time leave without salary January 1-31, 1959 and 100% time leave without salary February 1 to June 15, 1959, for work on Doctor's degree at the State University of Iowa.
- Margaret F. Grainger, assistant professor in School of Nursing, sabbatical furlough January 5 to March 21, 1959, to visit former graduates in foreign countries to study effectiveness of School of Nursing graduate nurse curriculums.
- Nanna Jelstrup, assistant professor at West Central School and Station, with salary May 11 to June 15, 1959, to study curricular methods of teaching and observe living conditions and management in residence and dining halls in schools of agriculture and home economics in Norway, Sweden, and Denmark.
- Minerva O. Jenson, assistant professor-district supervisor home economics Agricultural Extension, without salary October 6 to November 22, 1958, to complete work toward Master's degree.

- O. Eldon Johnson, assistant professor of anthropology, 10% time leave without salary for 1958-59, to serve as acting director of the St. Paul Science Museum.
- Dorothy O. Lareau, assistant dean and assistant professor in Law School, 50% time leave without salary January 1-15 and March 1 to May 31, 1959, and 100% time leave without salary January 16 to February 28, 1959, for personal reasons.
- Cecelia R. Lediger, assistant professor in School of Nursing, without salary September 22, 1958 to August 22, 1959, for work toward Doctor's degree at Columbia University.
- Leslie K. Lindor, assistant professor at West Central School and Experiment Station, sabbatical furlough October 29, 1958 to June 30, 1959, to study for Master's degree.
- Alexander R. Margulis, assistant professor of radiology, continuation of military leave without salary July 1, 1958 to March 31, 1959.
- E. Scott Maynes, assistant professor of economics in School of Business Administration, without salary September 16, 1958 to June 15, 1959, to serve as project consultant to National Council of Applied Economic Research, New Delhi, India, under joint sponsorship by the Ford Foundation and the National Research Council.
- Maryann P. McIntyre, assistant professor in School of Public Health, without salary October 1, 1958 to September 30, 1959, to work toward Master's degree.
- Doris I. Miller, assistant professor in School of Nursing, without salary August 18 to October 4, 1958, to serve as consultant in nursing administration to the University of Chile, Santiago, Chile, under the sponsorship of ICA.
- Blanche Moen, assistant professor and chief reference librarian, with salary October 27 to December 5, 1958, on account of illness.
- Thomas Morley, assistant professor of botany, sabbatical furlough for 1958-59 to study and do research in Europe.
- Paul L. Murphy, assistant professor of history, without salary for 1958-59 to serve as visiting assistant professor at Northwestern University.
- Richard E. Norris, assistant professor of botany, continuation of leave without salary for 1958-59, to accept appointment at the New Zealand Oceanographic Institute, Wellington.
- Naomi M. Peterson, assistant professor in School of Business Administration, with salary October 27 to December 15, 1958 and 40% time leave with salary and 60% time leave without salary December 16, 1958 to March 15, 1959, on account of illness.
- Benjamin R. Reiter, assistant professor in School of Public Health and surgeon University Health Service, with salary December 1, 1958 to February 28, 1959, on account of illness.
- Charles A. Simkins, assistant professor-extension specialist soils in Agricultural Extension, without salary July 1, 1958 to May 31, 1959, to work in Iran with Development and Research Corps.
- Walter H. Uphoff, assistant professor in Extension Division and School of Business Administration Industrial Relations Center, sabbatical furlough October 1, 1958 to June 15, 1959, to accept Fulbright award for research at Cologne University in West Germany.

LEAVES OF ABSENCE, 1959-60

- Horace T. Morse, dean and professor of General College, without salary July 1-31, 1959, to teach first summer session at University of California, Berkeley.
- Ernst C. Abbe, professor of botany, sabbatical furlough for 1959-60, to collect and study histologically the materials of the Fagaceae (Oak Family) in Thailand and other available regions of the southeast Pacific.
- Wallace D. Armstrong, professor and head of physiological chemistry, sabbatical furlough January 1 to June 15, 1960, to do research on calcified tissues and consult with workers in this special field in Sweden, Norway, Denmark, England, Belgium, Germany, and Hungary.

- Henry Borow, professor of psychological studies in General College, sabbatical furlough for 1959-60, to conduct research and independent study in occupational psychology at Columbia University.
- Herbert M. Bosch, professor in School of Public Health, without salary September 16-28, 1959, to serve as consultant to World Health Organization in university training for sanitary engineers in Chile, Argentina, and Brazil.
- Theodore Caplow, professor of sociology, without salary for winter and spring quarters of 1959-60, to direct a large-scale study of the Social Consequences of Public Planning for the government of Puerto Rico.
- Clyde M. Christensen, professor of plant pathology and botany, without salary October 1, 1959 to March 31, 1960, to establish and develop a research project for the Rockefeller Foundation Agricultural Program in Mexico.
- Ralph E. Comstock, professor of animal husbandry, with salary November 29 to December 22, 1959, to review and consult concerning the Rockefeller Foundation's maize population genetics research in Mexico.
- Kenneth C. Davis, professor in Law School, without salary February 1 to June 15, 1960, to study Administrative Law and Practice in Great Britain on a Ford Foundation fellowship.
- Monroe D. Donsker, professor of mathematics, College of Science, Literature, and the Arts, sabbatical furlough for 1959-60, to accept a Fulbright senior research grant at Aarhus University, Denmark.
- Ruth E. Eckert, professor of general education, 100% time leave with salary December 16, 1959 to January 15, 1960; and 50% time leave with salary January 16 to March 15, 1960, due to illness; and without salary for 50% time March 16 to June 15, 1960.
- Henry J. Ehler, professor in Division of Humanities, University of Minnesota, Duluth, sabbatical furlough for winter quarter of 1959-60, to work on a textbook in logic.
- Carl J. Eide, professor of plant pathology and botany, without salary January 1 to April 30, 1960, to assist in the organization of a laboratory for the investigation of a plant disease survey for the Food and Agriculture Organization of the United Nations at Santiago, Chile.
- W. Edwin Emery, Jr., professor in School of Journalism, sabbatical furlough for 1959-60, to accept a Guggenheim Fellowship for studies in the history and development of American press associations, time to be spent in New York, Washington, and Europe.
- Richard K. Gaumnitz, professor in School of Business Administration, without salary for 1959-60, to serve as a consultant on management education to the European Productivity Agency.
- Lester E. Hanson, professor and head of animal husbandry, with salary August 1 to September 30, 1959, to accept an invitation by the United States Department of Agriculture to inspect the animal industries in cattle, sheep, and swine in Russia.
- William L. Hart, professor of mathematics, College of Science, Literature, and the Arts, without salary for 1959-60, on account of illness.
- Helmut G. Heinrich, professor of aeronautical engineering, without salary September 16 to October 31, 1959, to present a paper for a meeting in Hamburg, Germany (German Scientific Society of Aeronautics), and to visit research institutes and lecture at Technische Hochschule in Stuttgart.
- William T. Heron, professor of psychology, without salary for 1959-60, to serve as visiting professor at Bowdoin College.
- Alexander C. Hodson, professor of entomology and economic zoology, with salary March 15 to April 15, 1960, on account of illness.
- Reynold A. Jensen, professor and director Division of Child Psychiatry, sabbatical furlough for 1959-60, to visit and study programs of teaching and research in leading medical schools and child guidance centers in Scotland, England, and most of the countries of Europe.
- Elton L. Johnson, professor and head of poultry husbandry, with salary June 4 to July 12, 1960, to attend the Soybean Council of America, Incorporated, on a market development program in connection with the Foreign Agricultural Service of the United States Department of Agriculture in Rome, Israel, and seminars in Santander, Spain.

- Miles S. Kersten, professor of civil engineering, with salary September 16 to October 6, 1959, to serve as chairman of a delegation of soil mechanics and foundation engineering specialists on a trip to the Soviet Union.
- Benjamin E. Lippincott, professor of political science, without salary for spring quarter of 1959-60, for research and writing.
- Rufus W. Lumry, professor of physical chemistry, sabbatical furlough for 1959-60, to do research at Copenhagen, Denmark; Gottingen, Germany; and Cambridge, England.
- Kenneth MacCorquodale, professor of psychology, without salary September 16, 1959 to February 1, 1960, to serve as visiting professor at the University of California.
- Herbert McClosky, professor of political science, sabbatical furlough September 1, 1959 to August 31, 1960, to accept a Rockefeller Foundation Fellowship to work on analysis of data and preparation of manuscripts resulting from research carried out through the Laboratory for Research in Social Relations.
- Marion W. McCrea, professor and associate dean School of Dentistry, with salary January 16 to June 30, 1960, to serve as editor of the *Journal of Dental Education* at Temple University, Philadelphia, Pennsylvania.
- Charles H. McLaughlin, professor of political science, sabbatical furlough for 1959-60, to write an introductory manual of international law for student use and to gather materials for a casebook to be used in conjunction with the manual.
- William J. Micheels, professor and chairman trade and industrial education, continuation of leave without salary for 1959-60, to continue to serve as consultant to a study committee of the Indonesian Ministry of Education and adviser to the Ford Foundation.
- Arthur N. Milgram, professor of mathematics, Institute of Technology, without salary for 1959-60, to serve as visiting lecturer at the University of California, Berkeley.
- Lennox A. Mills, professor of political science, sabbatical furlough for spring quarter of 1959-60, to continue his study of Southeast Asia and write a book.
- Will M. Myers, professor and head of agronomy and plant genetics, without salary for 1959-60, to accept assignment with Rockefeller Foundation as special consultant to assist in development of graduate education for the Indian Agricultural Research Institute (India).
- Carl L. Nelson, professor in School of Business Administration, sabbatical furlough for 1959-60, to accept a Fulbright grant to lecture on business administration at School of Economics, Turku, and to study business administration processes and techniques in Sweden and Finland.
- John Neter, professor in School of Business Administration, without salary for 1959-60, to do research at the United States Bureau of Census, Washington, D.C.
- Edgar L. Piret, professor of chemical engineering, continuation of leave without salary for 1959-60, to continue to serve as science attaché to the Department of State, United States Embassy in Paris, France.
- Henry W. Rieken, Jr., professor of sociology and Laboratory for Research in Social Relations, continuation of leave without salary for 1959-60, to continue as program director for social science research with the National Science Foundation.
- Ernest H. Rinke, professor and acting head of agronomy and plant genetics, with salary February 22-26, 1960 (in addition to vacation time), to participate in a United Nations European and Mediterranean Hybrid Maize meeting in Rome, Italy.
- John Rood, professor of art, without salary for fall and winter quarters of 1959-60, to complete several commissions including Minneapolis Public Library fountain and for travel as president of Artists' Equity.
- Paul C. Rosenbloom, professor of mathematics, Institute of Technology, continue leave without salary for 1959-60, to serve as director of the Minnesota National Laboratory in the State Department of Education and as director of the Minnesota School Mathematics Center for the School Mathematics Study Group.

- Ernest B. Sandell, professor of chemistry, without salary April 1 to June 15, 1960, to serve as visiting professor at Cairo University, Egypt.
- Stanley Schachter, professor of psychology, without salary for the spring quarter of 1959-60, to accept a visiting professorship at Stanford University.
- Mulford Q. Sibley, professor of political science, sabbatical furlough for 1959-60, for research and writing.
- Ernst Simonson, professor in Laboratory of Physiological Hygiene, to continue on 30% time leave without salary for 1959-60, for outside consultation.
- Lorenz C. Straub, professor and head Civil Engineering, continuation of 20% time leave without salary for 1959-60, for outside consultation.
- Donald R. Torbert, professor of art, sabbatical furlough for 1959-60, to do research work as a Fulbright Scholar at the Ecole des Beaux Arts in Paris, France.
- John G. Turnbull, professor of economics School of Business Administration, without salary for spring quarter of 1959-60, to teach at Iowa State College.
- Alvin V. Weber, professor of veterinary anatomy, sabbatical furlough August 31, 1959 to September 1, 1960, to do research work at the Veterinary Institute of Justus Liebig University, Giessen, Germany.
- Arthur N. Wilcox, professor of horticulture and director of Cedar Creek Natural History Area, with salary July 1 to November 15, 1959, on account of illness.
- Benjamin Willerman, professor of psychology Office of Dean of Students, Student Counseling Bureau, 75% time leave without salary January 4 to March 19, 1960, to conduct a study for the Behavioral Services Department of the General Electric Company.
- John H. Williams, professor School of Physics, continuation of leave without salary for 1959-60, to serve as Director of Research Division, Atomic Energy Commission, Washington, D.C.
- John B. Wolf, professor of history, sabbatical furlough for 1959-60, to do research for biography on Louis XIV in the archives and libraries of Paris.
- C. Gilbert Wrenn, professor in College of Education, sabbatical furlough for fall quarter of 1959-60, to study the extent to which philosophical and psychological conditions apparently appropriate to student personnel work are found in various types of English colleges and universities; without salary, December 16, 1959, to January 15, 1960 and from February 1 to June 15, 1960, to participate in a nation-wide study of guidance services in the schools sponsored by the American Personnel and Guidance Association and Fund for the Advancement of Education.
- Herbert E. Wright, Jr., professor of geology, without salary for spring quarter of 1959-60, to join the Oriental Institute archeological expedition to Iran to study the physical, climatic and ecological environment of prehistoric man.
- Glen E. Baxter, associate professor of mathematics, College of Science, Literature, and the Arts, without salary for spring quarter of 1959-60, to work on a research contract in probability and statistics at Stanford University.
- John Berryman, associate professor interdisciplinary studies in general education and English, without salary February 16 to June 15, 1960, to lecture at the University of California, Berkeley.
- Fred H. Blum, associate professor of interdisciplinary studies in general education, without salary for spring quarter of 1959-60, for research on The Significance of Religious Principles for Industrial Organization with field work to be done in England.
- Eugenio Calabi, associate professor of mathematics, Institute of Technology, without salary for spring quarter of 1959-60, to serve as visiting professor at University of Chicago.
- Clarke A. Chambers, associate professor of history, sabbatical furlough for 1959-60, to do independent research on a historical analysis of the role of voluntary social welfare associations and reform groups during the 1920's.

- Frederick M. Chapman, associate professor Physical Education and Athletics for Men, without salary June 1-15, 1960, to accept a grant under the Department of State's International Education Exchange Service to visit the Philippines, Singapore, and Borneo to develop public recreation programs.
- John S. Chipman, associate professor economics School of Business Administration, without salary February 16 to June 15, 1960, to serve as visiting professor at Duke University.
- William Cohen, associate professor in Law School, without salary for 1959-60, to serve as visiting associate professor at the University of California, Los Angeles.
- Frederick E. Ellis, associate professor of general education, sabbatical furlough for 1959-60, for travel and study.
- Edward A. Fletcher, associate professor mechanical engineering, with salary March 29 to April 10, 1960, to attend the NATO conference in Milan, Italy and visit various aeronautical laboratories in France.
- Arvid B. Hagen, associate professor-district supervisor county extension work, with salary April 6-23, 1960, on account of illness.
- Ermond H. M. Hartmans, associate professor-extension economist farm management in Agricultural Extension, without salary May 12, 1959 to May 11, 1960, to accept an assignment with the Food and Agricultural Organization of the United Nations in Rome, Italy.
- Norton M. Hintz, associate professor School of Physics, sabbatical furlough for 1959-60, to study at the Institute for Theoretical Physics, Copenhagen, Denmark.
- John H. Kareken, associate professor of economics in School of Business Administration, without salary for 1959-60, to conduct special studies in monetary and credit policy for the Douglas Sub-committee on Inflation and Economic Growth, the Brookings Institution and the National Monetary Commission, Washington, D.C.
- William A. Kleinhenz, associate professor of mechanical engineering, without salary for 1959-60, to accept a National Science Foundation Faculty Fellowship for advanced study at Pennsylvania State University.
- Sidney C. Larson, associate professor of electrical engineering, without salary for 1959-60, to accept a National Science Foundation fellowship at Stanford University.
- Ramer D. Leighton, associate professor extension dairyman, with salary January 8-23, 1960, on account of illness.
- Edith Lentz, associate professor in School of Public Health, without salary September 1 to October 15, 1959, to serve as an exchange professor with the University of Chile.
- Warren S. Loud, associate professor mathematics, College of Science, Literature, and the Arts, without salary for 1959-60, for research at the United States Army Mathematics Research Center at the University of Wisconsin.
- James F. Marvin, associate professor of radiology, with salary January 15 to April 1, 1960, on account of illness.
- Robert E. Moore, associate professor of English, sabbatical furlough for 1959-60, to do research at the British Museum in London in order to complete a book.
- Frank Morrell, associate professor of psychiatry and neurology, with salary July 30 to August 16, 1959, to attend special congress on Brain Mechanisms and Learning in Montevideo (sponsored by Council of International Organizations of Medical Sciences) and International Physiological Congress in Buenos Aires.
- Arthur E. Naftalin, associate professor of political science, continuation of leave without salary for fall and winter quarters of 1959-60 and 67% time leave without salary for spring quarter, to serve as State Commissioner of Administration.
- Robert E. Nylund, associate professor horticulture, sabbatical furlough September 1, 1959 to August 31, 1960, to study horticultural crops and production practices in Finland under a Fulbright grant.

- Luther J. Pickrel, associate professor extension economist public affairs, with salary January 27 to March 10, 1960, to visit the Far East to study possibilities and problems of trade in agricultural products.
- G. Robert Stange, associate professor of English, without salary for 1959-60, to serve as visiting lecturer at the University of Chicago.
- Grover C. Stephens, associate professor of zoology, sabbatical furlough for 1959-60, to do research in invertebrate physiology at the University of Hawaii Marine Station.
- Gordon I. Swanson, associate professor agricultural education, without salary, July 16, 1959 to July 31, 1960, to accept an appointment as an education program officer at the UNESCO headquarters in Paris, France.
- D. Burnham Terrell, associate professor of philosophy, sabbatical furlough from December 16, 1959 to December 15, 1960, to do research at the University of Innsbruck, Austria, under the Fulbright program.
- Albert Tezla, associate professor of English in Division of Humanities, University of Minnesota, Duluth, sabbatical furlough for 1959-60, to accept a Fulbright Research Fellowship to gather materials for a book on the origins of Hungarian romantic literature in Vienna, Austria.
- Mary C. Turpie, associate professor of English, without salary for 1959-60, on account of the illness of her mother.
- Walter K. Vivrett, associate professor School of Architecture, without salary for the winter quarter of 1959-60, to work for Housing and Home Finance Agency in Washington, D.C.
- Raymond S. Wolf, associate professor and extension specialist information Agricultural Extension, sabbatical furlough October 26 to December 11, 1959, to work for Master's degree.
- Helen J. Yesner, associate professor in School of Social Work, sabbatical furlough for 1959-60, to be spent in Far East principally in Bangkok, Thailand, investigating social work and social work education to gain acquaintance with and an understanding of the people and their culture.
- Heinz W. Berendes, assistant professor of pediatrics, without salary January 16, 1960 to January 15, 1961, to serve as assistant director of the National Institutes for Neurological Diseases and Blindness at Bethesda, Maryland.
- Jean A. Burgess, assistant professor physical education for women, without salary for 1959-60, to study for doctorate in anthropology at University of Arizona.
- John C. Craddock, assistant professor geology and mineralogy, without salary for winter quarter of 1959-60, to conduct field studies of the bed rock geology in the "Trans-Antarctic Trough."
- Anna M. Duval, assistant professor of chemistry, University of Minnesota, Duluth, without salary December 16, 1959 to June 15, 1960, for postdoctoral work at Columbia University.
- Orazio Fumagalli, assistant professor of art in Division of Humanities, University of Minnesota, Duluth, without salary for 1959-60, to complete work on doctorate at the State University of Iowa.
- Peter Gregory, assistant professor economics School of Business Administration, 100% time leave of absence (50% of salary paid by the University of Minnesota and 50% of salary paid by Ford Foundation) for 1959-60, to accept a Ford Foundation Fellowship at Institute of Basic Mathematics for Application to Business at Harvard University.
- Harley E. Hanke, assistant professor at West Central School and Experiment Station, with salary October 7 to December 12, 1959, on account of illness.
- Wendell J. Josal, assistant professor speech and theater arts, sabbatical furlough for 1959-60, to complete work for Ph.D. degree at Northwestern University.
- Bernard W. Lindgren, assistant professor mathematics, Institute of Technology, sabbatical furlough for 1959-60, to accept a National Science Foundation Faculty fellowship at Stanford University.
- Leslie K. Lindor, assistant professor at West Central School and Experiment Station, without salary for 1959-60, to work in the rehabilitation of physical plant and with service enterprises in the University of the Philippines through Michigan State University under contract with the International Cooperation Administration.

- Merle K. Loken, assistant professor radiology, for 20% time without salary for 1959-60, for further study.
- David T. Lykken, assistant professor psychiatry and neurology, without salary September 1, 1959 to June 30, 1960, to participate at the Center for Advanced Study in the Behavioral Sciences at Palo Alto, California.
- Richard H. Lyon, assistant professor of electrical engineering, without salary for 1959-60, to study and do research at the University of Manchester, England, under a National Science Foundation Fellowship.
- Helmut K. Mangold, assistant professor at Hormel Institute, without salary April 18 to July 31, 1960, on account of the death of his mother in Germany.
- Blanche Moen, assistant professor and chief reference librarian, with salary January 6 to February 11, 1960, on account of illness.
- William D. Munro, assistant professor of mathematics, Institute of Technology, without salary for 1959-60, to serve as visiting associate professor at Johns Hopkins University.
- Donald E. Olson, assistant professor of physics, University of Minnesota, Duluth, without salary April 16 to May 15, 1960, to work with the Department of Health, Education, and Welfare, Office of Education, Washington, D.C.
- Herald K. Palmer, assistant professor mechanical engineering, with salary September 16 to October 31, 1959, on account of illness.
- Karl H. Potter, assistant professor of philosophy, without salary for 1959-60, to accept a Fulbright Research Scholarship for study in India.
- Rosella H. Qualey, assistant professor district supervisor home economics Agricultural Extension, sabbatical furlough October 10, 1959 to August 31, 1960, to work for Master's degree at University of Wisconsin.
- Wesley C. Simonton, assistant professor Library School, without salary for spring quarter of 1959-60, to conduct a study on the bibliographical control of microforms under the direction of the Association of Research Libraries.
- Warren B. Stenberg, assistant professor of mathematics, Institute of Technology, 50% time leave without salary April 1 to June 15, 1960, to become associate director of the Minnesota National Mathematics Laboratory.
- Eugenia R. Taylor, assistant professor School of Nursing, without salary March 14 to June 4, 1960, to serve as a researcher in the practical nursing programs in country under the auspices of the National League of Nursing and the United States Office of Education.
- Suzanne Tinker, assistant professor physical education for women, with salary April 16 to June 15, 1960, on account of illness.
- Edward A. Usenik, assistant professor of veterinary surgery and radiology, without salary July 1, 1959 to June 30, 1960, to serve on the staff of the Brookhaven National Laboratories at Upton, Long Island, New York.
- Theodore Volsky, assistant professor of psychology and senior student personnel worker Office of Dean of Students, Student Counseling Bureau, without salary July 1-17, 1959, to teach at the Guidance and Counseling Institute at University of Maryland.

DEATHS

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

- Irving J. Glassberg, clinical instructor in urology, July 28, 1958.
- Frank F. Grout, professor emeritus geology and mineralogy, August 1, 1958.
- Carl A. Herrick, professor emeritus mathematics and mechanics, Institute of Technology, August 21, 1958.
- James S. McCartney, professor of pathology, August 30, 1958.
- J. Anna Norris, professor emeritus Physical Education for Women, September 15, 1958.
- Louise T. Dosedall, assistant professor plant pathology and botany, September 27, 1958.
- Allen W. Edson, professor-superintendent, West Central School and Station, September 29, 1958.

- Harry M. Weber, professor of radiology, Mayo Foundation, October 4, 1958.
James C. Sanderson, associate professor emeritus mathematics and mechanics, Institute of Technology, October 9, 1958.
George M. Stephenson, professor emeritus history, October 11, 1958.
William P. Dunn, associate professor emeritus English, November 2, 1958.
L. McKendree Eaton, professor neurology, Mayo Foundation, November 18, 1958.
Tremaine McDowell, professor emeritus English, January 7, 1959.
Hal Downey, professor emeritus anatomy, January 9, 1959.
Harry L. Parker, professor of neurology, Mayo Foundation, March 1, 1959.
Willes B. Combs, professor of dairy husbandry, March 7, 1959.
Philip S. Brain, assistant professor emeritus Physical Education for Men, March 14, 1959.
Otto S. Zelner, associate professor emeritus civil engineering, March 16, 1959.
Florence L. Goodenough, professor emeritus Institute of Child Welfare, April 4, 1959.
Bert E. Hempstead, associate professor emeritus otolaryngology, Mayo Foundation, April 16, 1959.
Ruth V. Johnston, professor in School of Nursing, April 20, 1959.
Arthur H. Sanford, professor emeritus bacteriology, Mayo Foundation, April 23, 1959.
Elmer Edgar Stoll, professor emeritus English, May 24, 1959.
Jerome W. Brower, lecturer in School of Public Health, May 28, 1959.
Ralph K. Ghormley, professor emeritus orthopedic surgery, Mayo Foundation, June 6, 1959.
Alvin B. Strong, Washington County agricultural agent-instructor, July 20, 1959.
Robert L. Faucett, assistant professor psychiatry, Mayo Foundation, August 5, 1959.
Edgar T. Herrmann, clinical assistant professor medicine, August 26, 1959.
Elmer W. Johnson, professor electrical engineering and assistant dean of Institute of Technology, September 20, 1959.
Edwin C. Jackson, Comptroller and Treasurer, September 24, 1959.
Howard R. Hartman, associate professor emeritus medicine, Mayo Foundation, October 6, 1959.
Robert I. Rizer, clinical assistant professor emeritus medicine, November 13, 1959.
Herald K. Palmer, assistant professor mechanical engineering, November 20, 1959.
Carl F. Schlotthauer, professor emeritus veterinary medicine, Mayo Foundation, October 21, 1959.
Frederick M. Mann, professor emeritus, School of Architecture, October 27, 1959.
Ella K. S. Oerting, instructor emeritus rhetoric, College of Agriculture, Forestry, and Home Economics, November 6, 1959.
Frederick J. Alway, professor emeritus soils, November 15, 1959.
Charles W. Boardman, professor emeritus general education, November 23, 1959.
August B. Salmela, assistant professor at North Central School and Station, December 10, 1959.
Russell M. Wilder, professor emeritus medicine, Mayo Foundation, December 16, 1959.
Verval J. Mueller, professor School of Social Work, January 7, 1960.
Henry G. Zavoral, professor emeritus extension animal husbandman, January 8, 1960.
Alvin E. Prottengeier, assistant professor German, January 14, 1960.
Palmer O. Johnson, professor general education, January 24, 1960.
Winchell McK. Craig, professor emeritus neurosurgery, Mayo Foundation, February 12, 1960.
Wilfred O. Stout, Jr., associate professor General College, February 18, 1960.
Emanuel S. Lippman, clinical assistant professor pediatrics, February 24, 1960.

- Harry B. Zimmermann, clinical professor emeritus surgery, March 11, 1960.
 Elting H. Comstock, professor emeritus School of Mines and Metallurgy, April 11, 1960.
 James F. Marvin, associate professor radiology, April 22, 1960.
 Ralph F. Crim, associate professor agronomist emeritus, Agricultural Extension, April 28, 1960.
 Clifton A. Boreen, clinical instructor emeritus, medicine, May 1, 1960.

HONORS AND DISTINCTIONS

Administration

JAMES LEWIS MORRILL served as chairman, Committee on Government Controls of Higher Education, 1959; member, Steering Committee for Land-Grant Centennial, 1959-60; chairman, Committee on Centennial Theme, 1959-60; and member, Committee on Centennial Brochure, 1959-60, *American Association of Land-Grant Colleges and State Universities*. He served as member, Commission on Education and International Affairs, American Council on Education, 1959. He continued as member of the Advisory Council, National Fund for Medical Education. For 1959-60 he served as member of the following: Editorial Board, *Journal of Higher Education*; College of Electors, Hall of Fame, New York University; Council of Ten, Western Conference University Presidents; Executive Committee of the Executive Council, Minnesota Historical Society; Board of Trustees, The Minneapolis Foundation; Board of Trustees, Ames Library of South Asia; Board of Trustees, Minnesota Community Research Council; Board of Trustees, United Hospital Fund of Minneapolis and Hennepin County; Interstate Committee on Higher Education, Midwest Council of State Governments; Committee of Sponsors, Greater Minneapolis Council of Churches; Board of Trustees, Institute of International Education; World Advisory Committee, World Congress of Junior Chamber International; Board of Directors, Educational Facilities Laboratories; member, Board of Directors, Learning Resources Institute; member, Committee of Educators, Recording for the Blind, Inc.; chairman, Ford Foundation Committee on the University and World Affairs; and was elected to honorary membership in Variety Clubs International, 1959, and Minnesota Citizens Committee on Public Education, 1960. He was awarded the honorary degree, Doctor of Laws, by University of Wisconsin, 1959, and Hamline University, 1960.

STANLEY J. WENBERG served as member, Committee for the Continuing Study of Higher Education, Association of Minnesota Colleges; Minnesota Citizens Committee for Public Education; Board of Directors, Minnesota Mental Health Education; Board of Directors, Campus Club. For 1959 he served as president of the Campus Club. He also served as secretary, Committee on Institutional Cooperation, Council of Ten and the University of Chicago, for 1959-60.

Alumni Relations

EDWIN L. HAISLET served as member, Mayor's Advisory Committee; Mayor's Law Enforcement Committee, 1958-59; Mayor's Committee, White House Conference on Children and Youth, City of Minneapolis, 1959; Hospital Fitness Advisory Council, State of Minnesota, 1958-59; Governor's Advisory Council on Children and Youth; Recreation and Leisure Time Activities Committee, 1959-60; vice president, Minnesota State Amateur Athletics, 1959-60; chairman, Scholarship Committee, Minneapolis Star Journal Charter, 1959-60; panel member, Neutral Corner WTCN-TV, June, 1959-July, 1960.

Greater University Fund

JOSEPH H. DAVIDSON served as member, Advertising Study Committee, American Alumni Council, 1959-60.

Academic Administration

MALCOLM M. WILEY served as member, Problems and Policy Committee, as member and chairman 1959-60, Board of Directors, Social Science Research Council; member, Executive Committee and member, Board of Directors, Midwest Inter-library Corporation; member (representing the Social Science Research Council) U. S. National Commission for UNESCO, 1958-59; member, Conference Board, Associated Research Councils, 1959-60; and member, Board of Directors, Walker Art Center. In April, 1960, he was appointed by President Eisenhower as a member of the Board, National Science Foundation. Since 1959 he has served as member, Scholarship Committee, chairman, Education Committee, and member, Board of Trustees, St. Mary's Hall, Faribault, Minnesota. He was a member of the Board of Directors, Columbia University Alumni Club of Minneapolis; and Minnesota Representative for the American-Korean Foundation, 1959-60.

Office of Admissions and Records

T. E. KELLOGG served as editor 1960, *Report of Credit Given by Educational Institutions*, published annually by American Association of Collegiate Registrars and Admissions Officers.

TRUE E. PETTENGILL was elected member-at-large, Executive Committee, American Association of Collegiate Registrars and Admissions Officers.

ROBERT E. SUMMERS served as member, Steering Committee, African-American Scholarship Program, 1960; member, Executive Committee, Association of Naval R.O.T.C. Colleges.

Office of the Dean of Students

HENRY E. ALLEN served as chairman, Indian Sub-Committee, chairman, Religious Values Committee, and member, Executive Committee, Governor's Human Rights Commission, 1958-60; member, Governor's Advisory Council on Children and Youth, 1958-60; member, National Advisory Committee on Indian Affairs, American Civil Liberties Union, 1958-60; member, Board of Directors, 1958-59, and vice president and chairman, Executive Committee of the Minneapolis Civic Orchestra, 1959-60; member, Board of Directors, Foreign Policy Association of Minnesota, 1959-60; member, Mayor's Commission on Human Relations (Minneapolis), 1959-60; member, Minnesota Council on Family Life, 1958-60; chairman, Committee on Religious Observance, Minnesota Statehood Centennial Committee, 1958; delegate, Golden Anniversary White House Conference on Children and Youth, 1960; vice president, Association for the Coordination of University Religious Affairs, 1959-60; and adviser to the 2nd Inter-Collegiate Conference on Student Religious Activities, University of Michigan, 1959; and 3rd Inter-Collegiate Conference, Lake Bloomington, Illinois, 1960.

RALPH F. BERTIE served as chairman, Committee on Divisional Functions, Division of Counseling Psychology, 1958-59, representative from Division of Counseling Psychology to the American Psychological Association Council, 1959-60, member, Executive Council, Division of Counseling Psychology, 1959-60, American Psychological Association; member, Program Committee, American College Personnel Association, 1958-59; member, Committee on Counseling, 1958-60 and chairman, Subcommittee on Testing, State Department of Education, 1958-59; member, Advisory Committee on Testing, Educational Testing Service, 1958-60; member, Committee on Equality of Opportunity in Higher Education, American Council on Education, 1958-60; member, Consulting Committee, American Institute of Research TALENT Project, 1958-60; and regional co-ordinator of Project TALENT, 1959-60; member, Veterans Administration Training Committee, 1958-59, and consultant, Veterans Administration Training Program, 1959-60, Minneapolis and St. Cloud Veterans Administration Hospitals; member, Board of Editors, *Personnel and Guidance Journal*, 1958-59; Minnesota State Coordinator, American College Testing Program, 1959-60; and member, Committee for the Continuing Study of Higher Education, Minnesota Association of Colleges, 1959-60.

EMANUEL M. BERGER was awarded a Diplomate in Counseling by the American Board of Examiners in Professional Psychology, 1959.

PAUL BLOLAND served as host to international visitors, 1959-60, American Personnel and Guidance Association; and member, Program Committee, 1959-60, American College Personnel Association.

ALICE M. CHRISTIAN served as member, Board of Trustees, Twin City Vocational Guidance Association, 1958-60; member, Executive Board, Advisory Board, and chairman of the Archives Committee, 1958-59; member, Board of Directors, and of Interim Steering Committee, Rehabilitation Counseling Division, 1959-60, Minnesota Rehabilitation Association; and member, Membership Committee, Region VI, 1958-59, member of the Board of Directors, 1959-60, Rehabilitation Counseling Division, National Rehabilitation Association.

PHILIP R. COLLINS served as member, National Executive Council, Sigma Alpha Eta, 1959-60; and editor, *Minnesota Speech and Hearing Association Directory*, 1959-60.

JOHN FRENCH was appointed to the editorial staff, *Harvard Law Review*, 1958-59.

THETA HAGENAH served as member, Executive Council and Budget Committee, 1958-59, treasurer of Association, 1959-60, American College Personnel Association; vice president, 1958-59; president, 1959-60, Minnesota Association of Deans and Counselors of Women; and chairman, Evaluation Committee, Minnesota Counselors Association, 1958-60.

ROBERT L. HALL served as special adviser, National Investigation Committee on Aerial Phenomena, 1958-59; and state representative, American Sociological Association Committee on the Profession, 1959-60.

ERNEST H. HENRIKSON served as chairman, Minnesota Committee on Temporary Certification, 1958-59; member, Committee on the Esophageal Speech Program, Kenny Institute, 1958-60; member, Executive Committee, Hennepin County Chapter, American Cancer Society, 1958-60; member, Committee on the Governor's Conference on Rehabilitation, 1959-60; member, Committee on Nominations, Committee on Association Honors, Committee on Association Planning, Committee on Liaison with the International Association for Laryngectomies, and legislature co-ordinator of Minnesota, American Speech and Hearing Association, 1959-60; book review editor, *Journal of Speech and Hearing Disorders* and *Journal of Speech and Hearing Research*, 1958-60; and chairman, Minneapolis Speech Clinician's meeting, 1959.

VIVIAN H. HEWER served as member, Workshop Seminars Committee, Twin City Vocational Guidance Association, 1959-60.

ANNA M. HUSTON served as hospitality chairman, 1958-59, Twin City Vocational Guidance Association.

WILBUR L. LAYTON served as member, Executive Committee, Minnesota Psychological Association, 1958-60; president, Minnesota Council for the Gifted, 1958-59; member, Governor's Advisory Committee on Vocational Rehabilitation, 1958-59, member, Subcommittee on Personnel, Governor's Advisory Committee on Vocational Rehabilitation, 1958-59; consultant, State Division of Vocational Rehabilitation, 1958-59; consultant, Minneapolis Veterans Administration Hospital, 1958-59; and Minnesota State Coordinator, American College Testing Program, 1959-60.

JANET LUND served as secretary, Minneapolis-St. Paul Area, Board of the Committee of Eighty for Integrated Housing, 1959-60.

HUGH J. McCARDLE served as consultant, National Defense Student Loan Program, Washington, D.C., 1958-59; member and vice president, Eta Chapter, Phi Delta Kappa, 1958-60, co-chairman, Phi Delta Kappa International's Second Research Symposium on "Design and Analysis," 1959-60; co-ordinator, Annual State Fair Current Events Quiz Contest, State Fair Board, 1959-60; and member, Committee for the Selection of Outstanding High School Seniors, St. Paul Junior Chamber of Commerce, 1959-60.

MABELLE G. McCULLOUGH served as member, Research Committee, Association of College and University Housing Officers, 1958-60; member, Board of Trustees, and chairman, Status of Women Committee, member, Board of

Directors, member, Executive Committee, 1958-60, chairman, Personnel Committee, 1958-59, chairman, Program Committee, and chairman, Resolutions Committee, and elected delegate to Minnesota State Convention, American Association of University Women; and chairman, Second Annual Big Ten Off-Campus Housing Conference, 1958-59.

JOSEF A. MESTENHAUSER served as member, Board of Directors, International Center for Students and Visitors, 1958-60; and adviser, Colonial Dames Scholarship Committee, 1958-60.

FORREST G. MOORE served as director, Carnegie Corporation Project on Followup of Foreign Alumni, 1958-59; member, International Relations Committee, American Personnel and Guidance Association, 1958-59; president, 1958-59 and director, 1959-60, National Association of Foreign Student Advisers; and member, Foreign Student Leadership Project Advisory Committee, 1959-60.

GERHARD NEUBECK served as member, Standards for Training Committee, American Association of Marriage Counselors, 1958-59; member, Planning Committee, 1960 Groves Conference on Family Life, 1959-60; member, Executive Board, Minnesota Council on Family Life, 1959-60; and consultant, Family Life Committee, Evangelical Lutheran Church, 1959-60.

MARILYN B. PERLMUTER served as treasurer, Minnesota Speech and Hearing Association, 1959-60; and adviser, Zeta Phi Eta, 1959-60.

ALTON L. RAYGOR served as president, 1958-59, and member, Board of Directors, 1959-60, Minnesota Reading Association; member, Organization Committee, International Reading Association, 1958-59; and board member, North Central College and Adult Reading Association, 1958-60.

ARTHUR RINDLISBACHER served as chairman, Active Membership Committee, Apollo Club of Minneapolis, 1958-59.

GEORGE B. RISTY served as chairman, Great Northern Scholarship Committee, 1958-60; chairman, Minnesota Indian Scholarship Committee, 1958-60; member, Tozer Foundation Scholarship Committee, 1958-60; member, Sears, Roebuck and Company Scholarship Committee, 1958-60; chairman, GEM Scholarship Committee, 1959-60; and member, Panel of Consultants, National Defense Student Loan Program, 1958-60.

ELIZABETH SCHISSEL was elected member, Phi Beta Kappa, 1959-60.

MARTIN L. SNOKE served as secretary, Minnesota Committee on High School-College Relations, 1958-60; secretary, Minnesota Dads' Association, 1958-60; and member, National Association of Student Personnel Administrators' liaison committee with National Student Association, 1958-60.

MARGARET SPACE served as secretary-treasurer elect, member, Board of Directors, 1958-59, member, Executive Committee, Board of Trustees, and the Committee on Seminars, 1959-60, Twin City Vocational Guidance Association; and member, Program Committee, Minneapolis Women's Rotary Club, 1959-60.

CLARK D. STARR served as member, Professional Advisory Board, Minnesota Society for Crippled Children and Adults, 1958-59; member, State Department of Education Consultative Committee on the Problems of the Hard of Hearing and Deaf Children, 1959-60; member, Committee of Minnesota Speech Education, 1959-60; member, Committee of Minnesota Academy of Otolaryngology, 1959-60; chairman, Committee on Research, Minnesota Citizen's Committee on Public Education, 1959-60; and president, 1958-60, and program chairman for Annual Meeting (1959-60), Minnesota Speech and Hearing Association.

EDITH R. STEDMAN served as delegate to National Convention, 1958-59, chairman, Higher Education Workshop of Minnesota Branch, chairman, Evening Division Workshop of Minnesota Branch, 1959-60, American Association of University Women; member, Board of Directors, Volunteer Service Bureau of Minneapolis, 1958-60; member, Advisory Committee, National Educational Association, 1958-60; and member, Personnel Committee, 1959-60, member, YWCA Advisory Board, 1958-60.

EDWARD O. SWANSON served as editor, *Twin City Vocational Guidance Association Newsletter*, 1958-59, member, Board of Trustees, 1958-59, and mem-

ber, Board of Directors, 1959-60, Twin City Vocational Guidance Association; member, Executive Council, Minnesota Council for the Gifted, 1959-60; consultant, American Board of Dermatology, 1959-60; and consultant, Minnesota School Mathematics Study Group project, 1959-60.

THEODORE C. VOLSKY served as chairman, State Membership Committee, American College Personnel Association, 1958-60.

EDMUND G. WILLIAMSON served as chairman, Study Committee on Student Action on Social Issues, 1960, National Association of Student Personnel Administration; member, Counseling and Guidance Training Institutes Program, National Defense Education Act, 1958-60; chairman, Advisory Committee on Counseling Service for Vocational Rehabilitation and Education, 1958-60; and consultant, Minneapolis Office, Veterans Administration, 1958-60; editor, *Minnesota Library of Student Personnel Work*, 1958-60; editor, *Studies in Student Personnel Work*, 1958-60; member, Advisory Committee on National Association of Foreign Student Advisers, Dean Langmuir Foundation Foreign Student Study, 1958-60; and member, Board of Cooperating Editors, *Journal of Educational and Psychological Measurement* and the *Journal of Counseling Psychology*, 1958-60.

DONALD ZANDER served as co-host, Eleventh Annual Orientation Directors' Conference, 1958-59.

University Press

JOHN ERVIN, JR., served as member, Direct Mail Committee, 1958-59, and member, Nominating Committee, 1959-60, Association of American University Presses.

JANE MCCARTHY received an award for a book selected by the American Institute of Graphic Arts as one of the "Fifty Books of the Year" (best designed and best made), 1959; was designer of 3 books selected by the Chicago Book Clinic with top honors in design and manufacture, 1959, and of 3 books so selected in 1960; and was designer of 3 books selected as best-designed and best-manufactured, in the Midwestern Books Competition for 1959, and of 2 books so selected in 1960.

University Libraries

MARY BAKER served as president, Twin City Chapter, Special Libraries Association.

PAUL BERRISFORD served as member, North Central Association Evaluation Committee appraising Robbinsdale High School.

RALPH H. HOPF served as member, Council, representing the Association of College and Research Libraries, and director, University Libraries Section, Association of College and Research Libraries; and as member, Committee on Economic Status, University Libraries Section, American Library Association.

NORMA HOVDEN served as convention chairman, Minnesota Library Association.

W. CARL JACKSON served as member, Executive Committee, Acquisitions Section, Association of College and Research Libraries.

RUDOLPH JOHNSON served as president, Twin City Library Club.

JOHN PARKER served as member, Midwest Advisory Board, Bibliographical Society of America.

VSEVOLOD SLESSAREV was awarded the 1960 Genevieve Gorst Herfurth Award for outstanding research in social science for the book *Prester John: The Letter and the Legend*.

EDWARD B. STANFORD served as member, Subcommittee on Resources and Technical Services Division, and member, Clarence Day Award Committee, American Library Association.

Department of Concerts and Lectures

JAMES S. LOMBARD served as co-chairman, Upper Midwest Regional Auditions, Metropolitan Opera; assistant secretary, Gideon Seymour Memorial Lecture Series Advisory Committee; member, Advisory Committee, Sidney Hillman Lecture Series; chairman, Committee on the Arts, Minnesota Statehood Centennial Commission, 1958; member, University of Minnesota Centennial Committee, 1958; member, Advisory Committee, Junior Chamber of Commerce "Music Under the Stars"; member, Advisory Committee, Young Artists Concerts, Women's Association of the Minneapolis Symphony Orchestra; member, Board of Directors, St. Paul Civic Opera; president and member, Management Committee of the Six O'Clock Club; member, Board of Directors, Ballet Borealis Foundation, 1959-60; chairman, Committee for the Development of Opera; member, Committee on Colleges and Universities, and chairman, Young Stars of Today Committee, National Association of Concert Managers; producer, Farmers and Mechanics Savings Bank Golden Anniversary concerts, 1958; sponsor, Minnesota Land-Grant Centennial Observances, 1960; and was elected vice president, Evergreen Club, 1960.

Student Unions

PAUL W. LARSON served as Region 7 representative, Association of College Unions, 1959-62.

Bureau of Institutional Research

RICHARD LINDEMAN served as assistant to the adviser, Seoul National University of Korea.

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

JOHN E. STECKLEIN served as chairman, Research Team, Liaison Committee, Higher Education in Minnesota; and consultant, Committee on Academic Programs and Teaching Methods, University of New Hampshire.

Minnesota Museum of Natural History

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

JOHN TESTER received research grants from the Louis W. and Maud Hill Family Foundation and the Atomic Energy Commission.

DONALD K. LEWIS received the Citation of Merit, Department of Audio-Visual Instruction, National Education Association, April, 1960.

DWAIN W. WARNER received research grants from the Louis W. and Maud Hill Family Foundation, the U. S. Department of Health, Education, and Welfare, and the National Science Foundation.

Student Health Service

RICHARD G. BOND served as consultant, Division of Research Services, National Institutes of Health, U. S. Public Health Service; member, Governing Council and Executive Committee, American College Health Association; and was elected honorary fellow, Royal Society of Health (British), May, 1959, and honorary member, Association of Public Health Inspectors (British), July, 1958. He was also co-investigator on a National Institutes of Health research grant.

RUTH E. BOYNTON was re-appointed a member of the Minnesota State Board of Health.

SHIRLEY M. CORRIGAN served as consultant, Nursing Service, St. Cloud Veterans Administration Hospital; member, Professional Advisory Board, Minnesota Association for Mental Health; and consultant, Nursing Service, University Hospitals.

DONALD W. COWAN received a U. S. Public Health Service research grant.

EDWARD J. DVORAK served as editor, *Newsletter*, American College Health Association; and received research grants from the Louis W. and Maud Hill Family Foundation and the Sister Elizabeth Kenny Foundation.

GEORGE S. MICHAELSEN served as vice president, Board of Trustees, Augsburg College and Theological Seminary, Minneapolis; secretary, Board of Trustees, Lutheran Deaconess Hospital, Minneapolis; corporate member, Minnesota Hospital Service Association (Blue Cross), president, Upper Midwest Section, American Industrial Hygiene Association; member, Advisory Committee on Radiological Safety, and member, Advisory Committee on Minnesota Poison Information Center, State Board of Health; member, Committee on Hospital Facilities, Engineering and Sanitation Section, American Public Health Association; representative of the American Public Health Association, Subcommittee on Use and Handling of Radioactive Isotopes and High Energy Irradiation, American Standards Association; member, Executive Committee, Campus Safety Association, National Safety Council; member, Agricultural Committee, American Conference of Governmental Industrial Hygienists; and co-principal investigator for research on bacterial contamination.

GUSTAVE L. SCHEFFLER was elected secretary, Campus Safety Association, National Safety Council.

College of Science, Literature, and the Arts

ERNST C. ABBE received research grants from the National Science Foundation and the American Philosophical Society.

NORMAN ABELSON served as program chairman, Minnesota Music Teachers Association.

HAROLD B. ALLEN served as first vice president and chairman, Advisory Board for Textbooks in English as a Foreign Language, and chairman, Committee on Linguistic Terminology, National Council of Teachers of English; chairman, Nominating Committee, Minnesota Council of Teachers of English; member, Comité scientifique du Congrès international de Dialectologie générale, Louvain; and member, editorial advisory board, *Thorndike-Barnhart University Dictionary*. He also received a Smith-Mundt grant.

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

ARTHUR H. BALLETT served as liaison officer for the American Educational Theater Association, the Speech Association of America, and the National Council of Teachers of English.

WARD J. BARRETT served as member, Committee on Climatology, Association of American Geographers, and received an Office of Naval Research grant.

CHARLES H. BACKSTROM served as director, Minnesota Citizenship Clearing House.

DAVID K. BERNINGHAUSEN served as chairman, Committee on Intellectual Freedom, and president, Minnesota Library Association; president, Association of American Library Schools, 1959-60; president, member, Committee on Accreditation, American Library Association; and editor, *Undergraduate Library Education*.

JOHN BERRYMAN received a Brandeis University Poetry Grant.

WERNER W. BOEHM served as chairman, Committee on Education, Southern Minnesota Chapter, National Association of Social Workers; and received a Harry M. Cassidy Memorial Research Award.

JOHN R. BORCHERT served as member, Program Committee, and member, Nominating Committee, Association of American Geographers; member, Twin City Metropolitan Planning Commission, and chairman, Advisory Committee on the Social Sciences, Minnesota Department of Education.

MAY BRODBECK served as editor, *Philosophy of Science*.

CHARLES J. BROKAW received a U. S. Public Health Service research grant.

ALLEN H. BROWN served as member, Executive Committee, American Society of Plant Pathologists; member, Advisory Screening Committee in Biol-

ogy and Agriculture, Confederated Board of Associational Research Councils; member, Committee on Environmental Biology, and member, Panel on Closed Ecological Systems, National Academy of Science, National Research Council; and editor, *Plant Physiology* and editor, Row-Peterson series of *Biological Monographs*. He also received research grants from the Office of Naval Research and the National Science Foundation.

HUNTINGTON BROWN served as member, Overseers' Committee, Department of Romance Languages and Literature, Harvard College; and member, Board of Directors, Cornelia Latin Grammar School, St. Paul.

J. W. BUCHTA served as chairman, Cooperative Committee, American Association for the Advancement of Science; member, Executive Committee, American Institute of Physics; and head, Institute Section, National Science Foundation. He also received the Oersted Medal, American Association of Physics Teachers.

HAROLD W. CHASE served as political science advisory editor, Charles Scribner's Sons, publishers; and received a Brookings Institute grant.

BEULAH R. COMPTON served as member, Committee on Corrections and vice chairman, local chapter, National Association of Social Workers; and member, Committee to Study the Control of Social Problems, National Association of Social Workers.

ROY E. CARTER, JR., served as director, Minneapolis *Star and Tribune* studies; director, Inter-University Study of Newspaper Treatment of Civil Liberties Issues; member, National Council on Communications Research, and chairman, research sessions, Association for Education in Journalism; consultant, Southern Regional Education Board; consultant, Minnesota Poll; consultant, St. Paul Community Chest; associate editor, *Journalism Quarterly*; and editorial consultant, *Public Opinion Quarterly*. He also received a Human Genetics Fund research grant.

RALPH D. CASEY served as member, Committee on Freedom of Information and Press Responsibility, Association for Education in Journalism; and received honor medals from the University of Missouri and the University of Wisconsin for distinguished service in journalism. He also received the honorary Doctor of Laws (LL.D.) degree from Marquette University, April, 1961.

CLARKE A. CHAMBERS served as member, Board of Directors, St. Paul Urban League; and associate director, Foreign Student Orientation Program, Institute of International Education. He also received research grants from the General Service Foundation and the Cooperative Foundation.

MITCHELL V. CHARNLEY served as president, Association for Education in Journalism; and president, Minnesota Association for Mental Health.

KENNETH E. CLARK served as member, Behavioral Sciences Subpanel, President's Science Advisory Board; representative of American Psychological Association, International Congress of Applied Psychology; president, American Board of Examiners in Professional Psychology; and editor, *Journal of Applied Psychology*.

JAMES E. CONNOLLY received a Tozer Foundation research grant.

RUSSELL M. COOPER served as president, Association for Higher Education, National Education Association; and member, Executive Committee, secretary, Commission on Research and Service, and chairman, Committee on Liberal Arts Education, North Central Association of Colleges and Secondary Schools.

CAMPBELL CRADDOCK served as member, University Committee on Polar Research, National Science Foundation; and co-chairman, Lake Superior Institute on Geology. He also received a National Science Foundation research grant.

SANTIAGO A. CUNEO served as delegate, 7th National UNESCO conference; chairman, Economic Workshop of Minnesota; adviser for League of United Latin American Citizens; president, Educational Aids Recording Society; adviser, Northrop Public School; and adviser, Mo Pan American Club.

A. ORVILLE DAHL served as chairman, Nordmanns Forbundet Scholarship, University of Oslo; chairman, Norwegian-American Scholarship Fund; and

he also received research grants from the National Science Foundation and the National Institutes of Health.

HAROLD C. DEUTSCH served as member, Advisory Board, Program of Information on World Affairs; member, Executive Council, Foreign Relations Committee; and member, Awards Committee, McKnight Foundation.

GUY M. DUCKWORTH served as chairman, Materials Committee, Minnesota Music Teachers Association; director, *Music for Children*, Walker Art Center, Minneapolis; and music consultant, Lochmund School of Music, Duluth.

LORENZ E. A. EITNER served as chairman, Arrangements Committee, and vice president, College Art Association of America; and special honors examiner, Oberlin College, Oberlin, Ohio.

EDWIN EMERY served as member, History Committee, International Association for Mass Communication Research; member, National Educational Advisory Council, Public Relations Society of America; member, Research Committee, Associated Press Managing Editors Association; president, Alpha Chapter, Phi Beta Kappa; and associate editor, *Journalism Quarterly*. He also received a Social Science Research Council grant and a Guggenheim Fellowship.

MARVIN LEE ENTNER received a McKnight Foundation research grant.

EUGENE H. FALK served as acting chairman and secretary, Comparative Literature Section, Modern Language Association.

HERBERT FEIGL served as vice president and chairman, Section L (History and Philosophy of Science), American Association for the Advancement of Science; president, Minnesota State Philosophical Society; member, Governing Board, Philosophy of Science Association; member, Advisory Board, International Encyclopedia of Unified Science; associate, Princeton University Humanities Council; consultant, National Science Foundation; co-editor, *Philosophical Studies*; co-editor, *Current Issues in the Philosophy of Science*; co-editor, Vol. III: *Minnesota Studies in the Philosophy of Science*; and editorial adviser, *Philosophy of Science*. He also served as Carnegie Visiting Professor, University of Hawaii.

WILLIAM W. FLETCHER served as program director, Speech Science, American Speech and Hearing Association.

MARGARET M. FORBES served as member, Executive Committee, American Classical Language League; and member, Foreign Language Advisory Committee, Minnesota Department of Education.

EDWARD W. FRANCEL served as member, National Committee on Community Organization, National Association of Social Workers; member, Research Advisory Committee, Community Health and Welfare Council, Hennepin County; and member, Research Advisory Committee, Minneapolis Urban League.

ALBERT W. FRENKEL received research grants from the U. S. Public Health Service and the National Science Foundation.

MARY ADELAIDE GARDNER served as oral test judge, Minneapolis *Star* World Affairs Program; and received grants from the Tozer Foundation and the Organization of American States.

NORMAN GARMEZY served as chairman, Small Grants Committee, National Institute of Mental Health; and president, North Carolina Psychological Association.

PAUL W. GAST received a National Science Foundation research grant.

J. EDWARD GERALD served as chairman, Committee on Freedom of Expression, Minnesota Civil Liberties Union; member, Freedom of Information Committee, Sigma Delta Chi; and secretary, News Executive Conference.

LUTHER PAUL GERLACH received a Fulbright grant for field research.

JAMES L. GIBBS, JR., was elected to Sigma Xi.

RALPH E. GIESEY received an American Council of Learned Societies research grant.

ZAKKULA GOVINDARAJULU received a National Science Foundation grant.

KENNETH L. GRAHAM served as member, Board of Directors, American Educational Theatre Association; and member, Board of Directors, American National Theatre and Academy. He also received a New Dramatist Committee, Inc. (Ford Foundation) grant.

NAGUIB A. F. GREIS received an American Council of Learned Societies grant.

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

ROBERT T. HAZZARD served as president and vice president, National Collegiate Players; and received a Tozer Foundation research grant.

WILLIAM T. HERON served as vice president, American Society of Clinical Hypnosis.

FRANK D. HIRSCHBACH served as chairman, German Contest (Minnesota), and president, Minnesota Chapter, Association of American Teachers of German; and director, Classrooms Abroad, Inc.

ROBERT T. HOLT served as chairman, Committee on Prospective Students, and member, Executive Committee, American Association of University Professors.

THEODORE HORNBERGER served as member, Board of Editors, *American Literature*.

WILLIAM S. HOWELL served as member, Legislative Assembly, member, Public Address Interest Group, and member, Interest Group on Discussion and Group Methods, Speech Association of America; member, Advisory Committee, American Forensic Association; adviser to Minnesota State High School League; and consultant in communication to industry. He also received a Louis W. and Maud Hill Family Foundation research grant.

T. B. IRVING served as adviser, Canadian Friends of the Middle East; and was elected corresponding member, Society of Geography and History of Honduras.

JAMES J. JENKINS served as chairman, Social Science Research Council Committee on Linguistics and Psychology. He also received research grants from the National Science Foundation, the U. S. Public Health Service, and the Social Science Research Council.

J. VERNON JENSEN received a Danforth Foundation study grant.

ELDON JOHNSON served as acting director, Science Museum, St. Paul; state archaeologist; chairman, local arrangements, American Anthropological Association; and regional editor, *Asian Perspective*. He also received a National Science Foundation research grant.

ROBERT L. JONES served as chairman, Research Committee, Sigma Delta Chi; member, Executive Committee, American Association of Schools and Departments of Journalism; member, Council of Communications Research, Association for Education in Journalism; consultant, Minnesota Poll; consultant, Minneapolis Community Chest; and member, Advisory Editorial Board, *Journalism Quarterly*.

TOM B. JONES served as president, Middle West Branch, American Oriental Society; and secretary, Minnesota Society of Archeological Institute of America. He also received a grant-in-aid from the American Council of Learned Societies.

PHILIP D. JORDAN served as president, Upper Midwest History Conference; member, Committee on Improvement of Social Studies Instruction, Minnesota Department of Education; member, Membership Committee, Southern Historical Society; member, Committee on History of Public Health, American Public Health Association; member, Editorial Committee, Minnesota Historical Society; consultant, American Documentation Center, Western Reserve University; and member, Editorial Board, *Gopher Historian*. He also received the honorary Doctor of Laws (LL.D.) degree from Monmouth College.

WENDELL JOSAL received a citation for meritorious achievement from Jamestown College, Jamestown, North Dakota.

NORMAN S. KERR received research grants from the National Institutes of Health and the National Science Foundation.

JOHN C. KIDNEIGH served as president, National Association of Social Workers; and chairman, Advisory Council on Child Welfare Services. He also received the Distinguished Service Award of the National Association of Social Workers.

GISELA KONOPKA served as vice president, Orthopsychiatric Association of America; member, Executive Committee, National Conference of Social Welfare; chairman, Group Work Section, National Association of Social Workers; chairman, Correctional Institutions and Correctional Camps Committee, Governor's Advisory Council on Children and Youth; member, Program Committee, member, Governor's Committee on Treatment Home for Disturbed Children, consultant, State Committee of Development of Standards for Children's Institutions; member, Advisory Committee, Department of Corrections; member, Citizen's Workhouse Advisory Committee to Minneapolis Mayor; member, Executive Committee, Group Work and Recreation Section, and member, Executive Committee, Family and Child Welfare Division, Community Welfare Council, Hennepin County; consultant, Big Sisters Association, Minneapolis; consultant, Minnesota State Children's Center; and advisory member, Lutheran Welfare Association Film Committee.

JOSEPH J. KWIAT served as member, Annual Bibliography Committee of Group IX (Literature and the Related Arts), Modern Language Association of America; and member, Committee on Cooperating Societies, National American Studies Association.

DAVID LAMBERG received a National Science Foundation grant.

J. GIL DE LAMADRID received a National Science Foundation research grant.

FRANK M. LASSMAN served as secretary, Professional Services Board, American Board of Examiners in Speech Pathology and Audiology; and consultant, Acoustical Audiology, Veterans Administration.

DONALD B. LAWRENCE served as chairman, Publicity Committee, Minnesota Chapter, The Nature Conservatory. He also received a Louis W. and Maud Hill Family Foundation research grant.

J. C. LEVENSON served as member, Committee of Judges, McKnight Foundation Awards in the Humanities.

JEROME LIEBLING received first prize, San Francisco International Festival for film "Pow-Wow."

ROBERT LINDSAY served as member, Council on Radio and Television Journalism, and editor, *Static*, Association for Education in Journalism; member, Educational Advisory Council, Public Relations Society of America; chairman, Committee on Research, Radio-Television News Directors Association; member, Nominating Committee, Minnesota Chapter, Sigma Delta Chi; chairman, Committee on Constitution and By-laws, Minnesota Press Club; and was elected to Kappa Tau Alpha.

GARDNER LINDZEY served as member, Psychopharmacology Study Section, National Institutes of Health; member, Committee on Faculty Research Grants, Social Science Research Council; member, Advisory Committee, *Encyclopedia of the Social Sciences*; associate editor, *Psychological Abstracts*; assistant editor, *The Century Psychology Series*; consulting editor, *Psychological Issues*, *Journal of Personality*, *Psychological Review*, and *Contemporary Psychology*. He also received research grants from the McDermott Foundation and the National Institutes of Health.

RODNEY C. LOEHR served as member, editorial board, *Agricultural History*.

LLOYD H. LOFQUIST served as president-elect, Division of Rehabilitation Counseling, American Personnel and Guidance Association; member, Governor's Advisory Committee on Rehabilitation; member, President's Committee on Employment of the Handicapped; and member, Minnesota Board of Examiners in Psychology. He also received research grants from the American Personnel and Guidance Association and the Office of Vocational Rehabilitation.

ROBERT C. LUCAS received a Danforth grant.

WILLEM LUYTEN served as National Lecturer, Sigma Xi. He also received research grants from the Office of Naval Research, the National Science Foundation, the Louis W. and Maud Hill Family Foundation, the Guggenheim Foundation, and UNESCO.

DAVID T. LYKKEN received a National Institute of Mental Health research grant.

KENNETH MACCORQUODALE served as consultant, Surgeon General, U. S. Navy; consultant, Veterans Administration; and editor, *Century Psychology Series*. He also received a National Science Foundation research grant.

HERBERT McCLOSKEY received grants from the Rockefeller Foundation and the Social Science Research Council.

E. W. McDIARMID served as chairman, Minnesota Committee for UNESCO; chairman, Executive Committee, Division of Arts and Sciences, American Association of Land-Grant Colleges and State Universities; member, Executive Committee, J. J. Hill Reference Library; and member, Committee on Library Services, North Central Association Commission on Colleges and Universities. He was also honored as distinguished alumnus of the year, Texas Christian University.

WILLIAM A. McDONALD received a Guggenheim Fellowship.

CHARLES H. McLAUGHLIN served as member, Board of Directors, and chairman, Policy Committee, Minnesota Division, American Association for the United Nations; and rapporteur and chairman, High School Residential Seminar on U. S. Foreign Policy.

EUGENE COTTON MATHER served as chairman, West Lakes Division, chairman, National Program Committee, Association of American Geographers; and representative, Field Planning Conferences in Geography, Council of Institutional Cooperation. He also received an Association of American Geographers research grant.

RICHARD B. MATHER served as president, Lambda Alpha Psi; member, Program Committee, Association of Asian Studies; and member, Committee of Management, University YMCA.

GROVER MAXWELL served as co-editor, *Current Issues in the Philosophy of Science* and Vol. III, *Minnesota Studies in the Philosophy of Science*.

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

DAVID J. MERRELL received a National Science Foundation research grant.

LENNOX A. MILLS received a Guggenheim Fellowship.

ELIO D. MONACHESI served as member, Committee on Nominations and Elections, member, Executive Committee, and president, Midwest Sociological Society; member, Board of Directors, Big Brothers, Inc.; member, Committee on Nominations, Sociological Research Association; member, Committee on Correctional Institutions and Camps, Governor's Council on Children and Youth; chairman, Committee for Research in Anti-Social Behavior; and chairman, Advisory Committee, Minnesota Department of Corrections. He also received a National Institutes of Health research grant.

SAMUEL H. MONK served as editor, *Art of Poetry*; member, Advisory Council, Department of English, Princeton University; and member, Executive Council, Modern Language Association of America. He was also honored with the William Beckman Professorship of English Languages and Literatures, University of California, and the Beach Lectureship.

THOMAS MORLEY served as member, Board of Governors, Nature Conservancy; and also received a National Science Foundation research grant.

MALCOLM H. MYERS served as vice president, Artists' Equity; and received a purchase prize, Arts Program, Ford Foundation.

RICHARD A. NARVAEZ received a Smith-Mundt grant.

RICHARD E. NORRIS received Fulbright and National Science Foundation grants for research.

MARCELLA OJA served as acting secretary, Twin City Chapter, National Association of Teachers of Singing.

INGRAM OLKIN served as chairman, Russian Translations Committee, member, Committee on Fellows, and collaborating editor, Institute of Mathematical Statistics; and associate editor, *Journal of the American Statistical Association*. He was also elected fellow of the Institute of Mathematical Statistics.

GERALD B. OWNBEY served as delegate, Systematic Section, International Botanical Congress; and received a National Science Foundation research grant.

WALTER T. PATTISON served as chairman, 20th Century Spanish Section, Modern Language Association; and member, Advisory Committee for Foreign Languages in Elementary and High Schools, Minnesota Department of Education.

KARL H. POTTER served as secretary-treasurer, Minnesota Philosophical Society; and received a Fulbright research grant.

WALTER QUIRT served as member, Jury, Wisconsin Painters Society.

SHELDON C. REED served as secretary, Minnesota Human Genetics League; and chairman, Advisory Committee on Human Genetics, and chairman, Advisory Committee on Radiological Safety, State Board of Health. He also received a National Institute of Mental Health research grant.

JOHANNES RIEDEL served as chairman, Commission on Research, Lutheran Society for Worship, Music and the Arts; and acting editor, *Response*. He was also elected to Pi Kappa Lambda.

JOHN ROOD served as president, Artist Equity Association.

ARNOLD M. ROSE served as vice president, Midwest Sociological Society; chairman, Committee on Psychiatric Sociology, International Sociological Association; alternate delegate, World Congress of Sociology; member, National Commission on Law and Social Action; chairman, Committee on Relations with Sociologists in Other Countries, American Sociological Association; chairman, Committee on Sociology and Social Work, Society for the Study of Social Problems; and chairman, Minnesota Planning Committee, White House Conference on Aging.

EPHRAIM ROSEN served as consultant, Veterans Administration; and consultant, Office of Nursing Services, U. S. Public Health Service.

RALPH G. ROSS served as adviser, University of Michigan Press; adviser, Criterion Books, Inc.; and adviser, Thomas Y. Crowell Co. He also received grants from the Bollingers Foundation and the Minneapolis Society of Fine Arts.

WALLACE A. RUSSELL served as consultant, Austen Riggs Center, Stockbridge, Massachusetts; and received a Fulbright grant.

H. ETTA SALOSHIN served as vice chairman, Research Advisory Committee, Child Health and Welfare Center, Hennepin County; and Governor's Council on Aging.

WILLIAM SCHOFIELD served as member, Committee on Evaluation, Board of Education and Training, American Psychological Association; and member, Medical Advisory Policy Committee, State of Minnesota.

DAVID SCANLAN received a Tozer Foundation grant.

HAROLD W. SCHNEIDER served as treasurer, Lambda Alpha Psi; and editor, *Critique*.

R. SMITH SCHUNEMAN served as member, National Board of Directors, Kappa Alpha Mu.

GEORGE M. SCHWARTZ served as chairman, State Mapping Advisory Board; and president, Society of Economic Geologists.

ROBERT L. SCOTT served as contributing editor, *The Quarterly Journal of Speech*.

LYNDELL SCOTT served as member, Committee on Training Standards, American Public Health Association; member, Board of Directors, Children's Home Society; member, Board of Advisers, Home Service Division, Hennepin

County American Red Cross; and member, Commission of Accreditation, Council on Social Work Education.

VIRGINIA L. SENDERS received a Carnegie Corporation research grant.

GEORGE L. SHAPIRO served as management consultant, Veterans Administration.

MULFORD Q. SIBLEY received a Rockefeller Fellowship.

LLOYD M. SHORT served as chairman, Conference on Graduate Education for Public Administration; president, Midwest Conference of Political Scientists; member, Committee on Training for Government Service, Land-Grant College-U. S. Department of Agriculture; and member, Consultant Group, Survey of Graduate Study in Public Administration, U. S. Office of Education.

JOHN CAMERON SIM served as conference manager, National Scholastic Press Association; conference manager, Associated Collegiate Press; chairman, Minnesota State High School Press Association Conference; and judge, Minnesota Newspaper Association contests.

WESLEY SIMONTON served as secretary, Cataloging and Classification Section, American Library Association. He also received a Council on Library Resources research grant.

DONALD K. SMITH served as president and member, Executive Committee, Central States Speech Association; member, Legislative Assembly, Speech Association of America; and consultant, Hospital Administration Institutes, Veterans Administration.

ROBERT F. SPENCER served as president, Upper Midwest Chapter, Society for the Scientific Study of Religion; member, Governor's Human Rights Commission; and editor, *Proceedings*, Minnesota Academy of Science.

NELSON T. SPRATT, JR. served as program director, Developmental Biology, member, Advisory Panel, National Science Foundation; member, Embryology Course, Marine Biological Laboratory, Woods Hole; and consultant, National Institutes of Health. He also received a National Science Foundation research grant.

G. ROBERT STANGE served as member, Regional Selection Committee, Woodrow Wilson National Fellowship Foundation; regional representative, American Council of Learned Societies; chairman, Program Committee, Group 10, and chairman, English II, Midwest Modern Language Association.

EARL W. STARK received a Zenith Research Grant, American Speech and Hearing Foundation.

BURTON STEIN served as member, Committee on South Asia, Association of Asian Studies; and member, Committee of Asian History, American Historical Association.

GROVER C. STEPHENS received research grants from the National Science Foundation and the U. S. Public Health Service.

F. M. SWAIN served as secretary-treasurer, Twin City Geologists; and received a National Science Foundation research grant.

ROY ARTHUR SWANSON served as member, Board of Directors, Cornelia Latin Grammar School, St. Paul.

ALLEN TATE served as member, New Criticism Conference, Georgetown University; and received an honorary Doctor of Literature (Litt.D.) degree from the University of Kentucky.

D. BURNHAM TERRELL received research grants from the Azzano Foundation and the Fulbright Foundation.

HYLTON A. THOMAS received a Guggenheim Fellowship.

DAVID W. THOMPSON served as critic-judge for the Minnesota State High School League.

DONALD R. TORBERT served as president, Upper Mississippi Valley Region, American Studies Association. He also received Fulbright and U. S. Department of State (USIA) research grants.

DIMITRI TSELOS served as member, Committee on Annual Meeting, Mid-western Art Conference; and art consultant, St. Mary's Greek Orthodox Church.

JOHN E. TURNER received a Louis W. and Maud Hill Family Foundation grant.

JAMES C. UNDERHILL received a National Science Foundation research grant.

LEONARD UNGER served as the Beach Lecturer.

JOGINDAR SINGH UPPAL received a Case Institute of Technology Fellowship.

GEORGE B. VOLD served as member, Council, American Sociological Association; and member, Oral Examining Board, Minnesota Civil Service Commission.

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

GEORGE A. WARP served as member, International Committee and Comparative Administration Group, American Society for Public Administration; and member, Higher Education Advisory Committee, Housing and Home Finance Agency.

BROM WEBER served as secretary-treasurer, American Studies Association of Minnesota and the Dakotas.

GERHARD H. WEISS served as secretary, Lambda Alpha Psi.

FRED WEZEMAN served as state chairman, Minnesota National Library Week.

FRANK M. WHITING served as member, Touring Committee, American Educational Theater Association-United Service Organization; member, National Council, United Service Organization; and member, Steering Committee, and member, Board of Directors, Tyrone Guthrie Theatre Foundation.

DAVID H. WILSON served as member, Selection Committee for Robert Livingston Schuyler Prize, American Historical Association; and member, Program Committee, Midwest Conference of British Studies.

HAROLD W. WILSON served as judge, Ayer Award for Newspaper Typography and Make-up Committee; business manager, *Journalism Quarterly*; judge, Evangelical Publishers Association; judge, typography and design contest, Printing Week; consultant, Univac *Image*, Remington Rand Univac; chairman of judges, Minnesota High School Press Association; and judge, Minnesota Weekly Newspapers, Minnesota Newspaper Association.

ROBERT D. WIRT served as member, Executive Council, Minnesota Psychological Association; member, Executive Council, Minnesota School Psychologists; and chairman, Advisory Committee on Emotionally Disturbed and Socially Maladjusted Children, State Department of Education.

JOHN B. WOLF received a Social Sciences Research Council research grant and a Guggenheim Fellowship.

H. E. WRIGHT, JR. served as secretary, Geomorphology Group, Geological Society of America; and received research grants from the Louis W. and Maud Hill Family Foundation, the National Science Foundation, the Office of Naval Research, and the Geological Society of America.

JAMES A. WRIGHT received a Kenyon Review Poetry Fellowship, a National Institute of Arts and Letters citation, a Longview Foundation award, a Poetry Society of America citation, and an Ohioana Library Association citation.

SARAH YOUNGBLOOD served as American bibliographer, *Annual Bibliography of English Language and Literature*; contributor, *Abstracts of English Studies*, National Council of Teachers of English; and editor, *The Minnesota Review*.

Tibor Zoltai received Research Corporation and National Science Foundation research grants.

Institute of Agriculture

ROLAND H. ABRAHAM served as member, Extension Marketing Subcommittee of ECOP (Extension Organization and Policy Committee), 1958-60; member, Joint ECOP-ESOP Publications Committee, 1958-60; administrative

adviser, North Central States Regional Publications Committee, 1958-60; Land-Grant College Association member, National Executive Committee of Live-stock Conservation, Inc. of Chicago, 1958-60; member, International Foreign Youth Exchange Advisory Committee, 1958-59; member, Executive Board, Minnesota Adult Education Association, 1958-60; vice chairman, Grand Council Epsilon Sigma Phi (National Honorary Extension Fraternity), 1958-60; chairman, North Central Region Extension Directors, 1959; chairman, Sixth National Co-operative Extension Administrative Seminar, August 16-27, 1959; and chairman, National Policy Board of National 4-H Club Foundation, 1959.

JOHN H. ALLISON was selected as Fellow, Society of American Foresters, 1960.

EVAN R. ALLRED was elected to membership, U. S. National Committee, International Commission on Drainage and Irrigation; served as chairman, Drainage and Irrigation Committee, American Society of Civil Engineers; and chairman, Soil Compaction Committee, secretary, Nomenclature Committee, and secretary-treasurer, Minnesota Section, American Society of Agricultural Engineers.

EMIL T. ANDERSEN served as superintendent, Division of Fruits in Horticulture, Minnesota State Fair, 1960.

NEIL A. ANDERSON was elected associate member of Sigma Xi, 1958.

PARKER O. ANDERSON received the State Senior Forestry Award, presented by State Keep Minnesota Green Committee, 1960.

HAROLD F. ARNEMAN received a research grant from State Department of Conservation, 1958-59.

WOODROW J. AUNAN served as chairman, Pork Carcass Evaluation Committee, Reciprocal Meats Conference, 1959-60.

CLYDE H. BAILEY was guest of Deutschen Bundesrepublik and invitation speaker at the Bundesforschungsanstalt für Getreideverarbeitung, at Detmold/Lippe, West Germany, October, 1958; and served as honorary president of the International Association for Cereal Chemistry, 1958; college level adviser in agriculture and veterinary medicine, Seoul National University of Korea Co-operative Project, at the University of Minnesota, 1958-60; and chairman of committee administering the Fleischmann Foundation research fund granted to the American Institute of Baking, 1958-60.

DONALD G. BAKER served as member, credentials committee, Minnesota Chapter of the Sigma Xi, 1960.

EGOLFS V. BAKUZIS was designated as member, Forest Biology Institute, North Carolina State College, Raleigh, North Carolina (sponsored by National Science Foundation), 1960.

BENJAMIN H. BEARD served as editor, *Barley Newsletter* sponsored by the American Barley Research Workers' Conference, 1950.

RICHARD BEHRENS received research grants from the Monsanto Chemical Company, 1960; Dow Chemical Company, 1960; Amchem Products, Inc., 1960.

BRUCE C. BERESFORD served as secretary, 9th District Horticultural Society, 1958; and adult leader, North Star 4-H Club, Crookston, 1958-60.

ROBERT W. BERG served as president, Minnesota Poultry Industry Council, 1959; and member, National Turkey Federation Awards Committee, 1959-60.

SHERWOOD O. BERG served as consultant, International Cooperation Administration, 1958-60; received a grant from the Council on Economic and Cultural Affairs, Inc. to visit colleges of agriculture in Korea, Taiwan, and Thailand, 1958; and received a grant from the Council on Economic and Cultural Affairs, Inc., 1960.

EARL S. BERGERUD was awarded a Farm Foundation Scholarship, 1958-59.

GEORGE R. BLAKE served as co-chairman, Division VI meeting, Soil Science Society of America meetings, Cincinnati, Ohio, 1959; and was elected secretary, January, 1960, Regional Research Committee on Soil Structure.

CARL BORGESON served as chairman, Seedstocks Committee, International Crop Improvement Association, 1958-60; chairman, Recreation Committee, St. Anthony Park Association, 1958-60; and was recipient of Honorary Premier Seed Grower award, Northwest Crop Improvement Association, 1959.

DAVID R. BRIGGS received a research grant from the National Science Foundation, 1958-60.

RODNEY A. BRIGGS served as chairman, Division X, Crop Science Society of America, 1959; member, Board of Directors, American Society of Agronomy, 1959-60; secretary, Minnesota Chapter of the Society of Sigma Xi, 1959-60; secretary, Minnesota Chapter Soil Conservation Society of America, 1959; member, Executive Committee, Minnesota Chapter Soil Conservation Society, 1960; member, Finance Committee, Soil Conservation Society of America, 1959; and chairman, National Silage Evaluation Committee, 1958-60.

GRACE D. BRILL served as chairman, Minnesota State Nutrition Council, 1958-59.

MARION A. BROOKS received a research grant from National Institutes of Health (U. S. Public Health Service), 1958-60.

BRUCE A. BROWN served as national director, U. S. Junior Chamber of Commerce, 1960.

JAMES I. BROWN served as member, Committee on Institutional Relations for 1959; member, SPAN Committee for 1959; and chairman, St. Anthony Park Methodist Church Board of Trustees, 1960.

RAY E. BURGER received a research grant from Ciba Pharmaceutical Products, Inc., 1959.

RICHARD S. CALDECOTT served as editor for *A Symposium on Radioisotopes in the Biosphere*, University of Minnesota Center for Continuation Study, 1959-60.

ALFRED C. CALDWELL served as chairman, North Central Regional Work Group on Radiation and Radioisotope problems; and received research grants from the Tennessee Valley Authority, 1958-, International Minerals and Chemical Corp., 1958-, American Potash Institute, 1958-, Public Health Division, State of Minnesota, 1960-.

CLYDE M. CHRISTENSEN served as scientific aide to the Rockefeller Foundation, Office of Special Studies in Mexico, 1959-60; and received research grants from Cargill, Inc., 1958-60, and from George A. Lincoln, 1959-60.

JONAS J. CHRISTENSEN was awarded the Elvin Charles Stakman Gold Medal and Award, May 21, 1959; and served as consultant to Advisory Panel on Biological and Chemical Warfare, Office of Secretary of Defense, Washington, D.C., 1960; collaborator with the U. S. Department of Agriculture, 1958-60; and member, Committee on Placement, American Phytopathological Society, 1960.

JOHN O. CHRISTIANSON served as chairman, Sub-Committee on Short Courses and Conferences, 1958-60, American Association of Land-Grant Colleges and State Universities; chairman, Student Exchange Committees, Sweden, Norway, Denmark, Holland, and West Germany, 1958-60; member, Board of Advisers, Minnesota Organization of Blind, Inc., 1958-60; and member, Board of Directors, Hennepin County Historical Society, 1958-60.

WILLARD W. COCHRANE served as visiting professor, Department of Economics, University of Chicago, 1958-59; distinguished guest professor, Texas A and M College, 1959; and president, American Farm Economic Association, 1959-60.

CLARENCE L. COLE was elected member, Gamma Sigma Delta, 1959; and received research grants from ARS, USDA, 1959-60.

RALPH E. COMSTOCK served as member, Genetic Biology Panel of the National Science Foundation, 1958-60; consultant to Rockefeller Foundation (December 1-19, 1959); and received research grants from the National Science Foundation, 1959, and Nichols, Inc., Exeter, New Hampshire, 1959-60.

EDWIN F. COOK received a research grant from National Science Foundation, 1959-60.

HERBERT G. CROOM served as district chairman, Kiwanis Clubs, 1958-60; and trustee, Stevens County Hospital Board, Morris, 1958-60.

LAURENCE K. CUTKOMP was appointed chairman-elect for North Central Branch of Entomological Society of America, 1960, to serve 1961-62; and re-

ceived research grants from the Surgeon General's office, U. S. Army, 1958-60; Metropolitan Mosquito Control District, 1959-60; McLaughlin, Gormley and King, 1958-59; and Shell Chemical Company, 1958-60.

WILLIAM H. DANKERS was re-elected vice president, Minnesota Division of the American Association of the United Nations, May, 1960; and served as member, North Central Regional Extension Marketing Committee, 1958-60.

GLENN H. DANIELS served as chairman, First Aid, Stevens County Chapter, American Red Cross, 1958-60; member, Governor's Advisory Council, Physical Fitness, 1959-60; and member, Stevens County Program, Morris, 1959-60.

SUZANNE DAVISON served as consultant in textile cases, City of St. Paul Conciliation Court, 1958-60.

LEE M. DAY received a research grant from the Agricultural Research Service, U. S. Department of Agriculture, 1960.

ROLLIN M. DENNISTOUN served on school board, Rosemount Independent District, 1958-60.

JOHN D. DONKER received a research grant from Allied Chemical and Dye Corporation, 1959-60.

AUSTIN A. DOWELL served as member, North Central Regional Resident Instruction Section, member, Resident Instruction Section, 1958-59 and 1959-60, Senate representative of Resident Instruction Section, 1958-59, chairman, Resident Instruction Committee on Organization and Policy Committee to Advise U. S. Office of Education on Enrollment Report, 1959, Division of Agriculture, American Association of Land-Grant Colleges and State Universities; presented with Service Key Award by the Alumni Association of Iowa State College, March 7, 1960; Alumni Citation presented by Alumni Association, College of Agriculture, Forestry, and Home Economics, University of Minnesota, May 7, 1960; elected honorary member, Kappa Chapter, Phi Zeta, May 19, 1960; received Staff Award from the Minnesota Student Association, May 17, 1960; and was made honorary member, Minnesota 4-H Club, for meritorious service, June 9, 1960.

DONALD P. DUNCAN served as secretary-treasurer, and legislative program committee chairman, Upper Mississippi Valley Section, Society of American Foresters, 1959-60.

RICHARD D. DURBIN lectured at three St. Paul High Schools, "Careers in Science Program," sponsored by the science clubs and teachers of the high schools in co-operation with the Minnesota Academy of Science, 1960.

CARL J. EIDE served as agricultural officer, Food and Agriculture Organization of the United Nations, January-April, 1960; member, Editorial Committee for Plant Pathology, *McGraw-Hill Encyclopedia of Science and Technology*, 1958-60; and received a research grant from the Red River Valley Seed Potato Association, 1959-60.

SELMER A. ENGENE served as visiting professor, Farm Management Research Training Institute, Hokkaido University, Sapporo, Hokkaido, Japan, 1958.

SHIRLEY N. ERICKSON served as membership chairman, Minnesota Home Economics Association, 1959.

ROUSE S. FARNHAM served as chairman, Division IVA (Organic Soils), Soil Science Society of America, 1958; chairman, Organic Soil Committee, North Central Regional Soil Survey Workshop, 1958-59; and member, National Organic Soil Committee, National Cooperative Soil Survey, 1958-60.

THEODORE H. FENSKE served as grand first vice president, Alpha Gamma Rho Fraternity, 1958-60; chairman, Committee on Agriculture and Conservation, Kiwanis International, 1960; member, National Civic Relationships Committee, 1958-60, and vice president, Indianhead Council, 1958-60, Boy Scouts of America; member, Minnesota Flying Farmers, 1958-60; member, national Board of Charities, Evangelical Lutheran Church, 1958-60, and the American Lutheran Church, 1960; and was awarded Legion of Honor, distinctive recognition for twenty-five year membership in Kiwanis International, by the Kiwanis Club of St. Paul, 1930.

ARNOLD M. FLIKKE was elected honorary member, Alpha Epsilon, 1959; and served as vice chairman and president-elect, Minnesota Section, American Society of Agricultural Engineers, 1959-60.

EDWARD C. FREDERICK served as member, Board of Directors, Top of the Nation Dairy Association—Red River Valley, 1959-60.

DAVID W. FRENCH served as member, Teaching Committee, American Phytopathological Society, 1958-60; pathologist, Lake States Forest Tree Improvement Committee, 1958-60; was elected to Gamma Sigma Delta, 1960; and received research grants from Dow Chemical Company, 1958-59, Insulation Board Institute, 1958-60, Kimberly-Clark Corporation, 1959-60, and North Oaks Company (Louis Hill, Jr. and Frank Nichols), 1959-60.

WILLIAM F. GEDDES served as member, Committee on Cereals of Food and Nutrition Board, National Research Council; member, Subcommittee on Food Technology of Food Protection Committee of Food and Nutrition Board, National Research Council. He continued as editor of *Cereal Chemistry*, published by the American Association of Cereal Chemists. He received the following grants: Malting Barley Improvement Association, 1958-60; Red Star Yeast and Products Company, 1959-60; U. S. Public Health Service, 1958-60; U. S. Army, 1958-59.

THOMAS A. GOCHNAUER received a research grant from Apiary Research, State of Minnesota Department of Agriculture, 1958-60.

ROBERT W. GOTH was elected to Gamma Sigma Delta, 1959, and elected associate member, Society of the Sigma Xi, 1958.

EDMUND F. GRAHAM received research grants from Minnesota and Wisconsin Cooperative Bull Studs, 1959-60, Louis and Maud Hill Family Foundation, 1959-60, and from Armour and Company, 1959-60.

RALPH S. GRANT served as secretary, Duluth Zoo Board, 1958-59; and director, Northeast District Guernsey Breeders' Association, 1959-60.

GORDON W. GULLION was elected to Sigma Xi, 1960.

LESTER E. HANSON served as member, National Research Council Committee on Nutrition, chairman of Subcommittee on Feed Additives, 1958-60; member, Research Council, American Dehydrators Association, 1958-60; member, Ralston Purina Fellowship Awards Committee representing American Society of Animal Production, 1958-60; member, U. S. Department of Agriculture, Foreign Agricultural Service, animal husbandry team of specialists who visited the U.S.S.R., August-September, 1959; and received a research grant from Chas. Pfizer and Co., Terre Haute, Indiana, 1959-60.

C. GUSTAV HARD served as publications chairman, Minnesota State Horticulture Society, 1959-60.

LEONARD L. HARKNESS served as member, ECOP Subcommittee on 4-H Club Work, 1958-60; and member, Board of Trustees, National 4-H Club Foundation, Washington, D.C., 1959-60.

EVELYN D. HARNE served as member, National Recreation Development Subcommittee of ECOP, 1958-60.

ROGER S. HARRIS served as secretary, Minnesota Conservation Education Council, 1958-60; and editor, "Minnesota Newsletter," Soil Conservation Society of America, 1958-60.

HELEN HART served as member, Committee on Monographs, 1959-60, member, Committee for Services to Manufacturing and Editing, 1960, member, Committee of Editors, *Plant Pathology, Problems and Progress*, 1908-1958, Golden Jubilee Volume, 1959, American Phytopathological Society; member, Editorial Committee for *Plant Pathology, McGraw-Hill Encyclopedia of Science and Technology*, 1958-60; member, Committee on Admissions, Minnesota Chapter, Sigma Xi, National Honorary Scientific Society, 1958-60; and was elected president, Minnesota Chapter, Gamma Sigma Delta, 1959.

MYKOLA H. HAYDAK received research grants from Royal Jelly Research Foundation, 1959-60.

ANDREW HUSTRULID served as member, Advisory Committee to the State Board of Education on Science and Mathematics Education, 1960; and served

as chairman, Minnesota Section, American Society of Agricultural Engineers, 1959-60.

FRANK D. IRVING served as vice chairman, Division of Forest Management, and member, Minnesota Forestry Research Council, Society of American Foresters, 1959-60; and member, Minnesota Conservation Education Council, 1959-60.

ROBERT JENNESS served as associate editor, *Journal of Dairy Science*, 1958-60; and received research grants from the American Dry Milk Institute, 1958-60, and U. S. Department of Agriculture, 1958-59.

ALBERT G. JOHNSON received a research grant from the St. Paul Garden Club, 1959-60.

ELMER M. JOHNSON served as municipal judge, served on Home Rule Charter Commission, and chairman, Committee on Changes and Amendments to City Home Rule Charter, city of Fridley, 1958-60; trustee, Municipal Judges' Association of Minnesota, 1958; and chairman, Anoka County Resolutions Committee, Republican Party, 1958-60.

ELTON L. JOHNSON served as chairman, Membership Committee, Poultry Science Association, 1959-60; co-operative representative, Foreign Agricultural Service, U.S.D.A., and the Soybean Council of America; and received a research grant from Vy-Lactos Laboratories, Inc.

ROBERT M. JORDAN served as president, Kiwanis Club, 1959; and received research grant from Smith, Kline and French Laboratories, Philadelphia, Pennsylvania, 1959.

FRANK H. KAUFERT served as president, Keep Minnesota Green, Inc., 1959-60; chairman, Society of American Foresters' Committee for the Advancement of Forestry Education, 1959-60; president, Forest Products Research Society, 1959; president, Minnesota Chapter, Sigma Xi, 1959-60; board member, American Forest History Society, 1958-60; fellow, Society of American Foresters, 1960; and director, Quetico-Superior Wilderness Foundation, 1958-60.

THOMAS H. KING served as member, Executive Committee, National Pea Improvement Association, 1959-60; member, Public Relations Committee, 1959-60, and Golden Anniversary Banquet Committee, 1958-59, American Phytopathological Society; and received research grants from Green Giant Company, 1958-60, and Libby, McNeill and Libby, 1958-60.

SAMUEL KIRKWOOD received research grants from the Malting Barley Improvement Association, 1958-60, National Science Foundation, 1958-60, Research Corporation, 1959-60, and Rockefeller Foundation, 1958-60.

KENNETH W. KNUTSON served as representative to Potato Research Planning Conference, 1959-60; and was elected to Gamma Sigma Delta, 1959.

E. FRED KOLLER was awarded special recognition for distinguished service to the dairy industry by Minnesota Dairy Products Association, 1960; and served as president, Gamma Sigma Delta, 1958-59.

THOR KOMMEDAHL served as member, Board of Directors, North Central Weed Control Conference, 1958-59; council member, North Central Region, 1959-60, member, Advisory Committee on Agricultural Meteorology, 1959-60, American Phytopathological Society; member, Oral Examination Panel for the position of seed and weed inspector for the State Department of Agriculture, March, 1960; and was elected to Gamma Sigma Delta, 1959.

JEAN W. LAMBERT served as member, Committee on Varietal Standardization and Registration, American Society of Agronomy, 1958-60.

ROGER G. LAMBERT was elected to Gamma Sigma Delta, 1958; and was elected associate member, Sigma Xi, 1958.

RAYMOND H. LANDON served as treasurer, Minnesota Archeological Society, 1959-60.

CURTIS L. LARSON was elected to membership in Gamma Sigma Delta, 1959; served as chairman, Committee on Pump Drainage, American Society of Agricultural Engineers, 1959; and chairman, Minnesota Chapter, Soil Conservation Society of America, 1960.

MAXINE A. LARSON received Excellent Rating 1958, Good Rating 1959 for "Reaching Rural People with Information Tools," awarded by the American Association of Agricultural College Editors.

IRVIN E. LIENER received the following grants: American Dairy Association, 1953-59; National Science Foundation, 1958-60; Research Corporation, 1959-60; and U. S. Public Health Service, 1958-60.

ALBERT J. LINCK served as member, National Science Foundation Review Panel, Washington, D.C., 1960; member of the council, and fellow, American Association for the Advancement of Science, 1960; national president, Gamma Alpha Scientific Fraternity, 1960; and received research grant from American Cyanamid Company, 1959-60.

THEODORE S. LONG served as president, Morris Library Board, Morris, 1959-60.

ELEANOR Y. LOOMIS served as president-elect, 1959, and president, 1959, Minnesota Home Economics Association.

WALTER O. LUNDBERG served as member, State Board of Education, 1958-60; co-editor of series "Progress in the Chemistry of Fats and Other Lipids," Pergamon Press, Ltd., London, 1958-60; president-elect, Minnesota Academy of Science, 1960; received the Third Glycerine Producers Award, 1959; received the following grants: American Heart Association, 1958-60; Archer Daniels Midland Co., 1958-60; Archer Daniels Midland Co., Spencer Kellogg & Sons, Inc., and the Glidden Co., 1958-59; Abbott Laboratories, 1958-60; Minnesota Heart Association, 1958-60; National Institutes of Health, 1958-60; National Institutes of Health, 1959-60; Oscar Mayer & Co., 1958-60; U. S. Quartermaster Corps, Food and Container Institute, 1958-60; U. S. Department of the Interior, Fish and Wildlife Service, 1958-60; U. S. Department of Agriculture, 1958-60.

JOHN M. MACGREGOR received research grants from Allied Chemical Corporation, 1958, Spencer Chemical Co., 1958, and Phillips Petroleum Co., 1958.

HAROLD MACY served as member, Reorganization Committee, 1960, Advisory Board, National Agricultural Extension Center for Advanced Study, 1958-60, and Governing Board, Agricultural Research Institute, 1958-60, by appointment of the American Association of Land-Grant Colleges and State Universities; consultant, Public Health Service, U. S. Department of Health, Education and Welfare, 1959; vice chairman, State Soil Conservation Committee, 1958-60; member, Governor's Committee on Water Resources, 1959-60; member, Agricultural Committee, St. Paul Chamber of Commerce, 1958-60; member, Agricultural Hall of Fame Committee, 1959-60; member, Executive Committee, Minnesota Safety Council, 1958-60; member, Advisory Committee, Quetico-Superior Wilderness Research Center, 1958-60; member, Hormel Institute Board, 1958-60; president, Dairy Council of the Twin Cities, 1958-60; president, 1958-59, and member, Board of Directors, 1959-60, Rotary Club of St. Paul. He was also awarded honorary membership in Phi Zeta, Kappa Chapter, 1959.

PHILIP W. MANSON was recipient of research grants from the Minnesota State Department of Soil and Water Conservation, 1958-59, and the American Concrete Agricultural Pipe Association, 1958-60.

WILLIAM H. MARSHALL served as member, National Resources Committee, Minneapolis Area, Chamber of Commerce, 1958-60; associate editor, *Journal of Wildlife Management*, 1958-60; and received research grants from National Science Foundation, 1959-60, Ingersoll Foundation, 1959-60, and Minnesota Department of Conservation, 1958-60.

WILLIAM P. MARTIN served as appointed collaborator, Soil and Water Conservation Research Division, U.S.D.A., Morris, Minnesota Laboratories; consultant, Construction Aggregates Corporation, Chicago, Illinois, in collaboration with the Palestine Economic Corporation, Tel Aviv, Israel, August, 1959; member, Monographs and Advances Committee, 1958-59, chairman, Organization and Policy Committee, 1958-60, chairman, Steering Committee on Nitrogen Monograph, 1958-59, chairman, Relations with Chemical Industry, 1960, co-president, North Central Regional Branch, 1959-60, co-chairman, North

Central Branch Summer Meeting, St. Paul, Minnesota, July 10-14, 1960, and member, Board of Directors, 1959-60, American Society of Agronomy; vice-chairman and chairman, Division III, Soil Microbiology, 1958-59, and member, Organization and Policy Committee, 1958-59, Soil Science Society of America; American secretary, Comm. III, Soil Microbiology, the 7th International Congress of Soil Science, Madison, Wisconsin, 1959-60, International Soil Science Society; president, Minnesota Chapter, 1958, Program Committee, National meeting, Rapid City, South Dakota, 1959 and member, Student Chapter Committee, 1959-60, Soil Conservation Society of America; chairman, Midwest Agronomists-Fertilizer Industry meeting, National Plant Food Institute, Chicago, Illinois, 1959; consulting editor, *Soil Science*.

WILLIAM MATALAMAKI was elected to membership in Phi Chapter, Phi Delta Kappa, Madison, Wisconsin, 1958.

HAROLD C. MATSON served as president, Minnesota Trade and Industrial Association, 1958; director, Waseca School Board, 1958-59; and vice president, First Congressional District School Board Association, 1959.

KEITH N. McFARLAND was awarded Minnesota State 4-H Alumni Recognition Award, 1959; National 4-H Alumni Recognition Award, 1960; and served as member, Planning Committee, Midwinter Conference, Minnesota Counselors Association, 1960.

GERALD R. McKAY received Excellent Ratings for "Reaching Rural People with Information Tools" and "State Fair 4-H Booths," 1958; Good Rating for "Reaching Rural People with Information Tools," 1959, awarded by the American Association of Agricultural College Editors; and served as member, St. Paul City Charter Commission, 1960.

ROBERT J. MEADE served as executive secretary, Minnesota Swine Producers' Association, 1958-60; and received research grants from Merck & Co., Inc., Rahway, N. J., 1958-59.

EUGENE C. MILLER served as president, Minnesota Flying Farmers Association, 1959-60; member, Governor's Task Force Committee on Aeronautics, 1959; and national delegate and member, National Magazine Committee, National Flying Farmer publication, 1959-60.

RALPH E. MILLER served on all-city Y.M.C.A. Committee dealing with membership and public relations, 1958-60; member, Committee on Management of Camp St. Croix sponsored by the St. Paul Y.M.C.A., 1959-60; member, Board of Directors, 1958-60, and president, 1958-59, Ramsey County Historical Society; member, Board of Directors, Midland Park Co-op Oil Association, 1959-60; chairman, Chelsea Heights Cub Scout Committee, Pack 16, 1958-60; and member, Sponsoring Committee, Boy Scouts of America, Como Lutheran Church, 1959-60.

MATTHEW B. MOORE was named Honorary Premier Seed Grower by Northwest Crop Improvement Association, 1959; and served as leader, Symposium on Undergraduate Teaching, American Phytopathological Society meetings, 1959.

WILL M. MYERS served as member, Board of Directors, Minnesota Crop Improvement Association, 1958-59; member, Board of Agricultural Consultants, Rockefeller Foundation, 1958-60; and member, Advisory Board, Soybean Crop Improvement Council, 1958-59.

DORIS E. NELSON was elected to Delta Pi Epsilon, 1960.

JOSEPHINE B. NELSON received Excellent Ratings for "University Farm and Home News" and "Reaching Rural People with Information Tools," and Good Rating for "University Farm and Home Radio Shorts," awarded by American Association of Agricultural College Editors, 1958; Excellent Ratings for "University Farm and Home News," and "University Farm and Home Radio Shorts," and Good Rating for "Reaching Rural People with Information Tools," awarded by the American Association of Agricultural College Editors, 1959; Minnesota Safety Council Award of Merit, 1959; and served as secretary-treasurer, 1958-59, president, 1960, Pi (Minnesota) Chapter, Epsilon Sigma Phi; and second vice president, and membership chairman, Minnesota Branch, National League of American Pen Women, 1958-60.

THEODORE M. NELSON served as member, Executive Committee, Minnesota Counselors Association, 1958-59; and secretary-treasurer, Young Men of Minnesota, 1959.

RALPH G. NICHOLS received the Agricultural Education Club "Outstanding Teacher Award," 1958; served as second vice president, 1959, and as first vice president, 1960, Speech Association of America; and member, Editorial Advisory Committee, *Thorndike-Barnhart Dictionaries*, 1960.

ISABEL NOBLE received a research grant from Agricultural Research Service, Household Economics Research Division, U. S. Department of Agriculture; and served as participant in National Conference on Science in 4-H Club work, Co-operative Extension Service and the National Science Foundation, Michigan State University, September 20-22, 1959.

TRUMAN R. NODLAND was awarded the "Master Builder" award from the National Conclave of Farm House Fraternity, 1958; made an Honorary State Farmer, Minnesota Future Farmers of America, 1959; served as college vice president, 1958-59, and member, Editorial Committee, American Society of Farm Managers and Rural Appraisers, 1959-60; member, National Board of Directors, National Conclave of Farm House Fraternity, 1958-60; and secretary-treasurer, Minnesota Farm Managers Association, 1958-60.

ROBERT E. NYLUND was awarded a Fulbright grant, 1959-60.

JOHN OHMAN was elected associate member Sigma Xi, 1959.

HARLEY J. OTTO served as member, Board of Directors, North Central Weed Control Conference, 1959-60; secretary and member, Board of Directors, Minnesota Crop Improvement Association, 1959-60; and member, Committee on Educational and Publicity Programs for Certified Seed, International Crop Improvement Association, 1959-60.

NARAYAN G. PATEL was elected to Sigma Xi, 1960.

SCOTT S. PAULEY received a research grant from Louis W. and Maud Hill Family Foundation, 1958-60; and served as member, United States Forestry Delegation to U.S.S.R., 1959; associate editor, *Journal of Forestry*, 1959; and member, Program Committee, Fifth World Forestry Congress, 1960.

HAROLD C. PEDERSON served as member, Farm Safety Section, Minnesota Safety Council, 1959-60; member, North Central Extension Marketing subcommittee on grain, 1959-60; vice president, 1958, and president, 1959-60, Minnesota Federation of County Fairs. He was awarded "Order of the North Star" by the Minnesota Statehood Centennial Commission, 1959.

WILLIAM E. PETERSEN was awarded Distinguished Service Award at annual Dairy Science meeting, 1960.

ALLAN G. PETERSON received research grants from American Cyanamid Company, 1958-60, Velsicol Corporation, 1958-60, Shell Chemical Corporation, and California Spray-Chemical Corporation, 1960.

LUTHER J. PICKREL served as consultant, National 4-H marketing project, 1959-60; member, foreign trade team which visited Southeast Asia, Australia, the Philippines, Japan, Federal Extension Service and the Foreign Agricultural Service, 1960; member, National Policy Conference Committee, 1958-60; and member, national committee for the preparation of a manual to guide leaders in the Land-Grand System in the analysis of the problems of agricultural adjustments, 1959-60.

ALVEY M. PILKEY was presented the Ranelius Award, Minnesota Turkey Growers Association, 1959; and was elected first vice president, Minnesota Synod Men's Council, First Presbyterian Church, 1960.

ROBERT R. PINCHES was re-elected to Northland Recreation Laboratory planning committee for 3-year term beginning 1960; and was re-elected to advisory committee, Western Regional Conference for Young Adults for 3-year term beginning 1960.

JESSE H. POMROY served as editor, *Minnesota Agrineer*, American Society of Agricultural Engineers, 1959.

GLENN I. PRICKETT served as member, National Farm Safety Institute, 1958-60; member, Farm Conference, National Safety Council, 1958-60; and member, Farm Division, Minnesota Safety Council, 1958-60.

ROSELLA H. QUALEY was awarded a fellowship, National Extension Center for Advanced Study, University of Wisconsin, 1959-60.

PHILIP M. RAUP was awarded a grant from the Hill Family Foundation, 1958; received a research grant from the Minnesota State Highway Department, 1959-60.

DIEDRICH REIMER served as secretary, Red River Valley Livestock Association; member, Board of Directors, Civic Music League of Crookston, 1960; elder and past clerk of Session, First Presbyterian Church, Crookston, 1959; and adviser, Minnesota Sheep Producers Association.

BOBBY L. RENFRO was elected to Gamma Sigma Delta, 1958.

A. GLENN RICHARDS served as member, Laboratory Innovations Committee of the Biological Sciences Curriculum Study, American Institute of Biological Sciences, 1959-60; member, Policy Committee, 1958-60, and chairman, Publication Committee, American Society of Zoologists, 1958-60; and received research grants from National Institutes of Health, 1959-60; and National Science Foundation, 1960.

ERNEST H. RINKE served as consultant and participant, Eucarpia—Food and Agriculture—United Nations European and Mediterranean Hybrid Maize Conference, February, 1960, Rome, Italy; served on Editorial Board, *Agronomy Journal*, 1958-60; member, Board of Directors, American Society of Agronomy, 1960; co-chairman, North Central Regional Section of American Society of Agronomy, 1959-60; and received a Pioneer Hi-Bred Corn Company research grant, 1959-60.

ROBERT G. ROBINSON received a United States Department of Agriculture research grant, 1959-60.

JOHN B. ROWELL served as member, Committee on Fungicide Colloquium, American Phytopathological Society, 1960; and received research grant from International Nickel Company, 1959-60.

RICHARD H. RUST served as member, USDA Soil and Water Conservation Needs Committee for Minnesota, 1958-60.

SKULI RUTFORD served as member, Legislation Subcommittee of ECOP (Extension Committee on Organization and Policy), 1958-60; member, ECOP Advisory Committee, 1958-60, and chairman, Board of Directors, 1959, American Institute of Cooperation; chairman, North Central Directors Committee on Conferences, 1959; member, Board of Directors Rural Rehabilitation, 1958-60; member, State Soil Conservation Committee, 1958-60; member, National Agricultural Policy Program Planning Committee, 1958-60; and chairman, State Rural Development Committee, 1958-60.

JOSEPH V. SCALETTI served as assistant to director, Chemical and Bacteriological Warfare Section, Minnesota Civil Defense, 1959; member, National Society of American Public Health, 1959; and received research grants from the National Institute of Public Health, 1958-60.

THORVALD SCHANTZ-HANSEN served as member, Board of Directors, Northwest Paper Foundation, 1960; and clerk, Cloquet School Board, Ind. Dist. No. 94, 1960.

ALOIS R. SCHMID served as member, Organization and Policy Committee, American Society of Agronomy, 1959-60; secretary, Coaches' Committee, National Collegiate Crops Judging Contests, 1960; and president, Minnesota Chapter, Gamma Sigma Delta, 1960.

MAX O. SCHULTZE received research grants from Atomic Energy Commission, 1958-60; and U. S. Public Health Service, 1958-60.

ARTHUR J. SCHWANTES served as chairman, Farm Section, Minnesota Safety Council, 1958-60; and member, Farm Conference, member, Board of Directors, and member, Research and Education Committee, 1958-60, National Safety Council.

HAROLD R. SEARLES served as president, Dairy Shrine Club, 1959-60; and approved judge, National Breed Associations for Holstein, Guernsey, and Brown Swiss Cattle, 1958-60.

ROBERT N. SHOFFNER received research grants from National Turkey Federation, 1960; Minnesota Turkey Growers Association, 1960; and U. S. Public Health Service, 1959.

DOROTHY SIMMONS served as member, Senate Committee of American Association of Land-Grant Colleges and State Universities, 1958; and member, American Home Economics Association Committee on Federal Support for Home Economics Research, 1960.

FRED SMITH received research grants from Archer Daniels Midland Company, 1958-60; Corn Industries Research Foundation, 1958-60; Kurth Malting Company, 1960; National Science Foundation, 1958-60; Research Corporation, 1959-60; U. S. Army, 1958-60; and U. S. Department of Agriculture, 1960.

LAWRENCE H. SMITH received an A. O. Smith Corporation research grant, 1959-60.

LLOYD L. SMITH, JR. served as editor, American Fisheries Society, 1959-60; North Central Area director, American Institute Fishery Research Biologists, 1960; and received research grants from U. S. Fish and Wildlife Service, 1958-60, State of Minnesota Conservation Department, 1958-59, and National Science Foundation, 1958-59.

LEON A. SNYDER served as editor, *A Symposium on Radioisotopes in the Biosphere*, University of Minnesota Center for Continuation Study, 1959-60.

LEON C. SNYDER served as president, Great Plains Section, 1958, and member, Executive Board, 1959, American Society for Horticultural Science; member, Committee on New Plant Testing, American Association of Arboretums and Botanical Gardens, 1959-60; member, American Nurserymen's Selection Committee for Colman Award, 1958-60; and member, Executive Committee, Minnesota State Horticultural Society, 1959-60.

OLAF C. SOINE served as president, Red River Valley Development Association; secretary-treasurer, Red River Valley Winter Shows Board of Managers, Inc., 1958-60; superintendent of Sunday School, Trinity Lutheran Church, Crookston, 1958; and councilman, City Council of Crookston, 1959-60.

ARNOLD K. SOLSTAD was elected to Phi Kappa Delta, 1959.

FRED A. SORENSEN served as president, Waseca Parent-Teachers Association, 1959.

RICHARD J. STADTHER received research grants from the Minnesota Farm Bureau Service, 1958-59; Utah Cooperative Association, 1958-60; and the Carney Company of Mankato, 1959-60.

ELVIN C. STAKMAN served as special consultant for Agriculture, The Rockefeller Foundation, 1958-60; collaborator, U. S. Department of Agriculture, 1958-60; consultant, U. S. Atomic Energy Commission, 1958-59; editor for plant pathology, *McGraw-Hill Encyclopedia of Science and Technology*, 1958-60; member, Committee on International Cooperation, American Phytopathological Society, 1959-60; member, Council of the American Association for the Advancement of Science, 1958-60; and was elected to American Academy of Microbiology, 1960; honorary member, Swedish Seed Association, 1959; honorary member, La Sociedad Mexicana de Historia Natural, 1960.

JOHN STRAIT received a research grant from the United States Department of Agriculture, 1959-60.

THEODORE W. SUDIA served as chairman, Botanical Section, Minnesota Academy of Science, 1960.

HAROLD B. SWANSON received Excellent Rating 1958, Good Rating 1959 for "Reaching Rural People with Information Tools," awarded by the American Association of Agricultural College Editors; and served as vice president, 1958-59, and president, 1959-60, Twin Cities U. S. Department of Agriculture Club.

MIL0 H. SWANSON received research grants from National Turkey Federation, 1960; and Minnesota Turkey Growers Association, 1960.

DONALD P. TAYLOR was elected to Gamma Sigma Delta, 1958.

HORACE L. THOMAS served as program chairman, Minnesota Chapter, Soil Conservation Society, 1960.

MARJORIE H. THURSTON served as judge, Regional Spelling Contest, Minneapolis Star, 1960; member, Board of Directors, Minnesota Division, American Association for the United Nations, 1960; and member, Board of Human Relations, Hennepin Avenue Methodist Church, 1960.

PHILLIP J. TICHENOR received Excellent Ratings for "University Farm and Home News" and "Reaching Rural People with Information Tools" and Good Rating for "University Farm and Home Radio Shorts," awarded by American Association of Agricultural College Editors, 1958, Excellent Ratings for "University Farm and Home News" and "University Farm and Home Radio Shorts," and Good Rating for "Reaching Rural People with Information Tools," awarded by the American Association of Agricultural College Editors, 1959.

KENNETH W. TUCKER was elected to Sigma Xi, 1960.

DEANE A. TURNER served as president, Minnesota Vocational Association, 1959.

ORRIN C. TURNQUIST served as president-elect, Potato Association of America, 1959; and secretary, Minnesota Vegetable Growers, 1958-60.

PAUL E. WAIBEL received research grants from Monsanto Chemical Company, 1960; Abbott Laboratories, 1958-59; U. S. Public Health Service, 1958-60; Commercial Solvents Corporation, 1959-60; E. I. du Pont de Nemours and Company, Inc., 1959-60; and Merck & Co., Inc., 1959-60.

THOMAS F. WATERS received a research grant from the National Science Foundation, 1959; and served as vice president, Minnesota Section, Wildlife Society, 1960; and member, American Institute of Fishery Research Biologists, 1960.

RALPH W. WAYNE served as superintendent, Cattle at National Dairy Cattle Congress, Waterloo, Iowa, 1958-60; chairman, Type Committee, American Dairy Science Association, 1959; secretary, Minnesota Purebred Dairy Cattle Association, 1959-60; and member, Board of Directors, Minnesota Holstein Breeders Association, 1958-60.

RICHARD E. WIDMER received a research grant from the Minnesota Florists, 1959-60.

ROY D. WILCOXSON served as member, Committee on Phytopathological News, American Phytopathological Society, 1959, 1960; and was elected to Sigma Xi, 1958.

JAMES D. WINTER was elected secretary-treasurer, Minnesota Fruit Growers Association, November, 1959; and received a research grant from Bakelite Company, 1958-59.

RAYMOND WOLF received Excellent Rating 1958, Good Rating 1959 for "Reaching Rural People with Information Tools," awarded by the American Association of Agricultural College Editors; National Safety Council Farm Safety Award, 1959, and Good Rating for "Camping 4-H Style," a radio transcription, awarded by the American Association of Agricultural College Editors, 1958.

FRANCIS A. WOOD received a Graduate Fellowship from the Mycological Society of America, 1960.

THOMAS D. WYLLIE was elected to Gamma Sigma Delta, 1958.

CHARLES W. YOUNG received research grants from U. S. Department of Agriculture, 1959-60.

BERNARD E. YOUNGQUIST served as president, Red River Valley Winter Shows Board of Managers, Inc., 1958-60; member, Board of Trustees, Trinity Lutheran Church, 1958-60; member, Board of Directors, Chamber of Commerce, Crookston, 1958-60; member, Board of Directors, Jobs, Inc., Crookston, 1958-60; and agricultural consultant, Red River Valley Development Association.

Institute of Technology

JOHN D. AKERMAN served as member, Advisory Board, Twin Cities Chapter, Institute of Aeronautical Sciences.

AXEL B. ALGREN was elected fellow, American Society of Heating, Refrigerating, and Air-Conditioning Engineers, June, 1960.

NEAL E. AMUNDSON served as editor, *Chemical Engineering Science*; and received the Industrial and Engineering Chemistry Award, American Chemical Society, 1960.

ALVIN G. ANDERSON served as chairman, Committee on Sedimentation, Hydraulics Division, American Society of Civil Engineers; member, Task Force on Air Entrainment in Open Channels, Hydraulics Division, American Society of Civil Engineers.

L. T. ANDERSON served as chairman, Professional Group on Electronic Computers, Twin Cities Section, Institute of Radio Engineers.

PAUL ANDERSON was elected to honorary membership, Korean Society of Civil Engineers, November, 1959.

RUTHERFORD ARIS received a research grant from the Research Corporation.

STEVE S. BARICH served as member, Executive Council, North Midwest Section, American Society for Engineering Education; and member, Minnesota Scientific Advisory Committee, State Selective Service.

ROBERT L. BLISS served as member, Planning Commission, Village of Shorewood; and member, Board of Directors, Minneapolis Chapter, American Institute of Architects.

ROBERT C. BRASTED continued as editor, Series, *Comprehensive Inorganic Chemistry*; served as chairman, Minnesota Section, and member, National Committee of Visiting Scientists, Division of Chemical Education, American Chemical Society. He delivered the American Chemical Society Lecture, Sacramento, California, 1959, and the John N. Swan Lecture, University of Mississippi, 1959.

J. DOYLE BRITTON was awarded a research contract, Office of Ordnance Research.

WILLIAM F. BROWN, JR. served as chairman, Session on Permanent Magnets, Fifth Conference on Magnetism and Magnetic Materials, Detroit, Michigan. He was elected a fellow, New York Academy of Sciences, December, 1959; and was awarded a research grant by the National Science Foundation.

STANLEY BRUCKENSTEIN was awarded a research contract, Office of Ordnance Research.

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

EUGENIO CALABI delivered the Visiting Lecture, University of Chicago; and received a grant for research from the National Science Foundation.

PAUL A. CARTWRIGHT served as member, National General Council, representing the North Midwest Section to the American Society for Engineering Education.

K. S. CHAMPLIN was elected to Sigma Xi, 1960; and received a research grant from the U. S. Air Force.

CHIEH-CHIEN CHANG served as director, Twin City Section, American Rocket Society; received research grants from the U. S. Air Force and the National Science Foundation.

EUGENE CHENETTE was elected to Sigma Xi, 1960.

WARREN B. CHESTON was awarded a Fulbright Fellowship.

JOHN S. DAHLER received a National Science Foundation research grant.

EUGENE G. DOMICH served as treasurer, Twin City Chapter, American Rocket Society.

ERNST R. G. ECKERT served as consultant, Office of Scientific Research, U. S. Air Force; consultant, National Aeronautics and Space Administration; sub-editor, *Encyclopaedic Dictionary of Physics*; member, Committee on Basic Research, National Academy of Sciences, National Research Council; and was awarded two National Science Foundation research grants.

STUART W. FENTON served as member, Fellowship Panel, National Science Foundation; chairman, Nominating Committee, Minnesota Section, American Chemical Society; and received an Alfred P. Sloan Foundation research grant.

EDWARD A. FLETCHER served as editor, *Isotopics*, American Chemical Society.

ARNOLD G. FREDRICKSON served as treasurer, Twin City Section, American Institute of Chemical Engineers; and received a Petroleum Research Fund research grant.

GEORGE D. FREIER received a National Science Foundation research grant.

LAWRENCE E. GOODMAN received a National Science Foundation research grant.

CARL GRAFFUNDER served as director, Minneapolis Chapter, American Institute of Architects.

LEON W. GREEN received a National Science Foundation research grant.

HELMUT G. HEINRICH served as consultant, Missile and Space Division (Discoverer), General Electric Corp.; and Schjeldahl Company (Echo). He was also awarded a Steering Committee, U. S. Army, Navy, and Air Force research grant.

RUDOLPH HERMANN served as president, Twin City Chapter, American Rocket Society; and member, Advisory Board, Twin City Chapter, Institute of Aeronautical Sciences. He was awarded National Science Foundation and National Aeronautics and Space Administration research grants.

NORTON M. HINTZ served as consultant, U. S. Air Force; and received a National Science Foundation Fellowship.

J. E. HOLTE was elected to Sigma Xi.

C. C. HSIALO was awarded a U. S. Atomic Energy Commission research grant.

WARREN E. IBELE served as member, Advisory Board, Office of Critical Tables, National Bureau of Standards, Department of Commerce; and received a National Science Foundation research grant.

HERBERT S. ISBIN served as member, Governor's Committee, Minnesota Atomic Development Problems Committee; member, Nuclear Committee, American Society for Engineering Education; member, Nuclear Engineering Education Committee, Associated Midwest Universities; member, Advisory Committee on Radiological Safety, State Department of Health. He also received Atomic Energy Commission and Argonne National Laboratory research grants.

HENRY S. JERABEK served as treasurer, Minnesota Section, American Society for Engineering Education.

THOMAS L. JOHNSTON served as member, Committee on Mechanical Properties of Solids, National Academy of Sciences.

RICHARD C. JORDAN served as member, Executive Committee, chairman designate, chairman, Ad Hoc Committee, Engineering in Developing Countries, chairman U. S. National Committee, delegate to international meetings in Moscow, 1958, Copenhagen, 1959, and Paris, 1960, and vice president, Executive Committee, International Institute of Refrigeration, National Academy of Sciences, National Research Council; was elected member, Advisory Council, Association for Applied Solar Energy; chairman, Research and Technical Committee, American Society of Heating, Refrigerating, and Air-Conditioning Engineers; chairman, International Affairs Committee, and member, Executive Committee, American Society of Mechanical Engineers Solar Energy Applications Committee; and received research grants from the National Science Foundation, the U. S. Public Health Service, and the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

PAUL J. KELLOGG served as director, IGY Data Center A—Archive for Cosmic Rays.

MILES S. KERSTEN served as member, National Advisory Committee, American Association of State Highway Officials Road Test; chairman, Department of Soils, Geology, and Foundations, Highway Research Board, National Academy of Sciences; member, Local Roads Research Board, Minnesota State Highway Department; chairman, Special Committee on Exchange of Soils and Foundation Specialists to USSR, National Academy of Sciences.

WILLIAM A. KLEINHENZ was awarded a National Science Foundation Faculty Fellowship.

IZAACK M. KOLTHOFF served as chairman, Committee on Analytical Chemistry, and member, Committee on International Exchange of Persons, National Research Council; member, Committee on Nomenclature, Analytical Chemistry Section, International Union of Pure and Applied Chemistry; associate editor, *Journal of the American Chemical Society* and *Series Chemical Analysis, Organic Analysis, and Treatise on Analytical Chemistry*; and was elected member, American Academy of Arts and Sciences. He also received research grants from the Office of Scientific Research, U. S. Air Force, Louis W. and Maud Hill Family Foundation, National Science Foundation, Office of Ordnance Research, and the U. S. Public Health Service.

MAURICE M. KREEVOY received grants from the Surgeon General, U. S. Army and the Office of Scientific Research, U. S. Air Force. He also received a fellowship from the Alfred P. Sloan Foundation.

ROBERT F. LAMBERT served as chairman, International Conference on Acoustical Fatigue, U. S. Air Force and University of Minnesota. He also received research grants from the National Science Foundation and the U. S. Air Force.

SIDNEY C. LARSON received a National Science Foundation Faculty Fellowship.

BENJAMIN J. LAZAN served as member, Sectional Committee of Shock and Vibration, S2, American Standards Association; member, Materials Advisory Board, National Academy of Sciences; member, ASTM-ASME Joint Committee on Temperature of the Properties of Materials; member, Committee E-9 on Fatigue; member, Executive Committee, Division of Materials Sciences; and member, Committee D-20, Plastics, American Society for Testing Materials; and member, Executive Committee, 1958, vice president, 1959, and president, 1960, Society for Experimental Stress Analysis.

EDWARD LEETE served as chairman, Organic Divisional Meeting, American Chemical Society; and received research grants from the National Institutes of Health, U. S. Public Health Service and the Petroleum Research Fund, American Chemical Society.

PAUL M. LELAND served as chairman, Twin Cities Chapter, Institute of Aeronautical Sciences.

BERNARD W. LINDGREN received a National Science Foundation Faculty Fellowship.

SANFORD LIPSKY received an Atomic Energy Commission research grant.

ROBERT S. LIVINGSTON continued Office of Ordnance Research and U. S. Public Health Service research grants; and received in addition, U. S. Atomic Energy Commission research grants.

IRVING J. LOWE served as principal investigator, National Science Foundation Grant G-6347; and was awarded an Alfred Sloan Foundation Fellowship.

RUFUS W. LUMRY was awarded research grants by the U. S. Atomic Energy Commission, the National Science Foundation, the Office of Naval Research, the Hill Family Foundation, and the U. S. Public Health Service. In addition, he was awarded a National Science Foundation Fellowship.

CLARENCE E. LUND served as adviser to the College of Engineering, Seoul University, Seoul, Korea; and was awarded a National Mineral Wool Association research grant.

ARTHUR J. MADDEN served as chairman, Twin City Section, American Institute of Chemical Engineers; and received research grants from the National Science Foundation and D. W. Onan and Sons, Inc.

LAWRENCE MARKUS was awarded an Office of Ordnance research grant.

GAYLE W. McELRATH served as member, Nominating Committee, Administrative Applications Division, Quality Control Functions Committee, chairman, Subcommittee of the Education and Training Committee, vice chairman, Midwest Conference Board, member, Editorial Board, and national director, American Society for Quality Control; chairman, Minnesota Section, Ameri-

can Society for Engineering Education; director, Minnesota Section, American Institute of Industrial Engineers.

C. ALDEN MEAD was awarded an Air Force Office of Scientific Research research grant.

EDWARD J. MEEHAN received a National Science Foundation research grant.

ARTHUR N. MILGRAM served as associate editor of *The Transactions of the American Mathematical Society*; and received an Office of Naval Research research grant.

HAROLD M. MOONEY served as member, Mining-Geophysics Committee, Society of Exploration Geophysicists.

ALLAN H. MORRISH was awarded a U. S. Air Force research grant.

O. W. MUCKENHIRN served as chairman, Foreign Languages in High Schools Committee, Parent-Teacher Association; and was awarded a National Science Foundation research grant.

THOMAS E. MURPHY served as meetings chairman, Twin City Section, Society of Automotive Engineers; and secretary, Twin City Section, American Rocket Society.

EDWARD P. NEY served as consultant, National Aeronautics and Space Administration; member, Convair Advisory Group; principal investigator, Cosmic Ray Program, and co-principal investigator, Atmospheric Physics Program, Office of Naval Research; and participated in Eclipse Experiment in Africa, October, 1959, and Zodiacal Light Experiment in Bolivian Andes, July, 1960.

ALFRED O. C. NIER served as chairman, Technical Advisory Committee, panel on Atomic and Radiation Physics, National Bureau of Standards; chairman, Advisory Committee on Science Education, State Board of Education; Advisory Committee to Physics Division, Argonne National Laboratory; member, Board of Directors, Midwest Universities Research Association; member, Council, Associated Midwest Universities; member, Subcommittee for Nuclear Geophysics, National Research Council; member, Visiting Committee, Department of Physics, Princeton University; member, Board of Trustees, St. Paul Science Museum; president, Section on Volcanology, Geochemistry, and Petrology, American Geophysical Union; member, Atomic Weight Commission, International Union of Pure and Applied Chemistry; member, Study Commission on Nuclifc Masses, International Union of Pure and Applied Physics; guest lecture, Continental Classroom; and member, Advisory Committee to Nuclear Physics Branch, and principal investigator, Office of Naval Research. He was elected a foreign scientific member, Max Planck Institut für Chemie, Germany, 1959; and was awarded honor by the Spectroscopy Society of Pittsburgh, 1960.

MORRIS E. NICHOLSON served as member, District 623 School Board, Ramsey County; chairman, Education Committee, Metallurgical Society of AIME; chairman, Minnesota Chapter, chairman, Student Affairs Committee, member, Seminar Committee, member, Development Committee, American Society for Metals; chairman, Committee on Educational Statistics, American Society for Metals Foundation for Education and Research; and was awarded an Atomic Energy Commission grant for research.

WAYLAND E. NOLAND directed the National Science Foundation Undergraduate Research Participation Program Grants in Chemistry; received a U. S. Public Health Service grant from the National Cancer Institute; and received a Frederick Gardner Cottrell grant from the Research Corporation.

WALTER M. NUNN, JR. was elected to Sigma Xi, 1960, and was elected to the American Physical Society, 1959.

PAUL R. O'CONNOR served as adviser, Laboratory Facilities in High Schools (subcommittee of Minnesota School Facilities Council), St. Paul School Board; and as director, National Science Foundation summer program for high ability students.

H. J. OSKAM was elected to Eta Kappa Nu, 1959; American Physical Society, 1959; Sigma Xi, 1960. He was also awarded research grants from the Office of Naval Research and the U. S. Air Force.

WILLIAM E. PARHAM served as secretary-treasurer, chairman-elect, and chairman, Committee of Visiting Associates of the Committee on Professional Training, Organic Division, American Chemical Society; alternate councillor, Minnesota Section, American Chemical Society; member, Board of Editors, *Journal of Organic Chemistry, Organic Synthesis, Chemical Reviews*; member, Committee on Organic Chemistry, National Academy of Science; and consultant, Surgeon General, U. S. Army.

EUGENE P. PFLEIDER served as vice chairman, Minnesota Section, and chairman, Publications Committee, American Institute of Mining Engineers; and received a National Science Foundation research grant.

STEPHEN PRAGER was awarded a Fulbright Research Scholarship, a Guggenheim Fellowship, and an Air Force research grant.

GEORGE W. PRECKSHOT served as director, Twin City Section, general chairman, One-Day Technical Meeting, Twin City Section, and member, Chemical Engineering Education Projects Committee, American Institute of Chemical Engineers; served as director, National Science Foundation Undergraduate Research Participation Program; and director, Office of Ordnance Research—Pool Boiling Heat Transfer Research.

W. P. RANEY continued as associate editor, *Journal of the Acoustical Society of America*, Category 11: Waves; chairman, Technical Committee on Sonics and Ultrasonic Engineering, Acoustical Society of America; and vice chairman, Administrative Committee, Professional Group on Ultrasonics Engineering, Institute of Radio Engineers.

LOYD H. REYERSON served as member, Council Policy Committee, American Chemical Society; and was awarded research grants from the U. S. Public Health Service and the National Science Foundation.

WARREN L. REYNOLDS was awarded research grants by the Atomic Energy Commission and the Dupont Grant-in-Aid.

JOHN F. RIPKEN served as chairman, Committee on Hydromechanics, American Society of Civil Engineers.

HELMUT ROHRL received a research grant from the Office of Scientific Research, U. S. Air Force.

PAUL C. ROSENBLOOM served as member, Council of American Mathematical Society; member, Division of Mathematics, National Research Council; director, Minnesota National Laboratory; director, Minnesota School Mathematics Center; member, Industry-Education Board, Minnesota Academy of Science; member, Board of Directors, Minnesota Council for the Gifted; visiting lecturer, Industry of Society for Industrial and Applied Mathematics; and visiting lecturer, Mathematical Association of America.

JAMES J. RYAN served as member, Minnesota Board of Registration for Architects, Engineers and Land Surveyors; consultant, Site Visit Committee, Advisory Panel on Accident Prevention Grant-in-Aid Proposals; director, Minnesota Section, American Society of Mechanical Engineers; director, Minnesota Federation of Engineering Societies representing Minnesota Society of Professional Engineers; national director to Board of National Society of Professional Engineers from the Minnesota Society of Professional Engineers. He also received a research grant from the U. S. Public Health Service, Accident Prevention Division.

ERNEST B. SANDELL served as Smith-Mundt visiting professor, Cairo University, 1960; and received a National Science Foundation research grant.

T. MICHAEL SANDERS served as principal investigator, U. S. Air Force Contract; and was awarded an Alfred Sloan Foundation Fellowship.

GEORGE J. SCHROEPPER served as member, Advisory Committee on Sanitary Engineering Research, National Institutes of Health, U. S. Public Health Service; and was elected honorary member, InterAmerican Association of Sanitary Engineers. He also received the Radebaugh Award, Central States Sewage and Industrial Wastes Association; and an honor plaque from the North Central Section, American Water Works Association.

CHARLES J. SCOTT served as treasurer, Twin City Chapter, Institute of Aeronautical Sciences; and was elected to Sigma Xi.

L. EDWARD SCRIVEN II received a National Science Foundation research grant.

JAMES B. SERRIN, JR. served as member, Editorial Board, *Journal of Mathematics and Mechanics*, and member, Editorial Board, *Archive for Rational Mechanics and Analysis*. He also received an Office of Scientific Research, U. S. Air Force, research grant.

WILLIAM G. SHEPHERD served as president, International Commission VII, URSI; member, Advisory Group on Electron Tubes, U. S. Department of Defense; member, Advisory Panel for Engineering Sciences, National Science Foundation; chairman, Fellowship Evaluation Panel for Engineering, National Academy of Sciences; member, Board of Directors, IRE; chairman, Governor's Committee on Electronics Industries; chairman, Thermionic Cathode Symposium, Electrochemical Society; and was awarded research grants by the U. S. Air Force.

JOHN M. SILVERTSEN received a research grant from the Office of Naval Research.

ATHELSTAN SPILHAUS served as chairman, Advisory Panel on General Sciences, Assistant Secretary of Defense (Research and Engineering); member, Research and Development Advisory Council, member, Centennial Advisory Committee, Army Signal Corps; member, Advisory Committee, Air Weather Service, member, Arctic Glossary Board of Consultants, U. S. Air Force; member, U. S. National Committee for the International Geophysical Year (IGY), member, Technical Panel on Earth Satellite; member, Committee on Oceanography, member, Committee on Polar Research, National Academy of Sciences—National Research Council; member, Special Study Group, National Academy of Sciences—Air Research and Development Command; member, Pacific Science Board; member, Committee on Extent of Air Space, International Astronautical Federation; member, Comite Mondial, L'Universite a l'Usine, Paris, France; member, Honorary Editorial Advisory Board, *Planetary and Space Physics*; member, Board of Trustees, and chairman, Scientific Advisory Committee, Woods Hole Oceanographic Institution; member, Permanent Subcommission on Station Instruments and Exposure, Commission on Instruments and Methods of Observation, International Meteorological Organization; member, Board of Award, Louis W. Hill Award for the Outstanding Contribution to Space Transportation, Institute of Aeronautical Sciences; member, North Central Regional Committee, American Geophysical Union; member, Panel on Development of Educational Motion Pictures and Lantern Slides in Meteorology, American Meteorological Society; member, National Committee for the Florence Agreement; member, Visiting Committee on the Earth Sciences, Massachusetts Institute of Technology; member, Board of Trustees, and member, Museum Committee, St. Paul Institute; delegate, National Academy of Sciences and USNC for the IGY to the Fifth General Assembly of CSAGI in Moscow, USSR, 1958. He also received the patriotic civilian service award, Department of the Army.

RICHARD D. SPRINGER served as consultant, Bureau of Field Studies and Surveys.

LORENZ G. STRAUB served as member, Permanent Council, International Association for Hydraulic Research; member, Committee on Regulation and Stabilization of Rivers, American Society of Civil Engineers; member, Committee on Ship Structural Design, National Research Council; member, U. S. Beach Erosion Board; member, Mississippi River Parkway Planning Commission; member, U. S. Committee on Large Dams; and member, Editorial Board, *Under-Water Engineering Magazine*. He was principal research investigator on projects sponsored by Army Corps of Engineers, Bureau of Ships—Office of Naval Research, Bureau of Yards and Docks—Navy Department, U. S. Naval Civil Engineering Laboratory, Army Signal Corps, Florida State Road Department, U. S. Bureau of Public Roads; Public Utility District—Grant County, Washington, Pearl River Valley Reservoir District—State of Mississippi, and the U. S. Department of Agriculture. He served as consultant and special adviser to the Missouri River Sediment Advisory Board; Arkansas River Sediment Advisory Board; Consulting Board of Lower Mississippi River; U. S. Waterways Experiment Station; Committee on Tidal

Hydraulics; Passamaquoddy Tidal Power Project; Madison Canyon Earthquake Dam; Army Corps of Engineers; Minneapolis, Minnesota; Vancouver, British Columbia; Colombia, South America; High Aswan Dam; Venezuela; Surinam; Iran; Pakistan; Queensland, Australia; and Saskatchewan, Canada.

RICHARD A. SWALIN served as member, Committee on Perspectives in Materials Research, National Academy of Science; member, Physics and Chemistry of Metals Committee, and chairman, Division Meeting—Philadelphia, Metallurgical Society. He also received research grants from the Research Corporation, the Office of Naval Research, and the Atomic Energy Commission.

OMAR E. TEWFIK was elected to Sigma Xi.

HENRY M. TSUCHIYA received research grants from the National Aeronautics and Space Administration.

HUGH L. TURRITIN received a research grant from the Office of Ordnance Research.

WALTER K. VIVRETT was appointed technical director (Housing), 1961 White House Conference on Aging. He also received the "Outstanding Performance Award" from the U. S. Housing and Home Finance Agency.

CLIFFORD N. WALL served as associate editor, *American Journal of Physics*; and was awarded a grant from the National Science Foundation.

STEFAN E. WARSCHAWSKI received a research grant from the Office of Naval Research.

JAMES H. WERTZ served as member, Secondary School Science Laboratory Research Committee, St. Paul Public Schools; and was principal investigator on an Air Force project.

JOHN E. WERTZ received research grants from the National Science Foundation and both the Aeromedical Section and the Solid State Sciences Section, Air Force Office of Scientific Research.

KENNETH T. WHITBY served as consultant, Division of Biology and Medicine, Atomic Energy Commission; chairman, Task Force on Sedimentation Particle Sizing, American Society for Testing Materials; and adviser, Committee for Standardizing Size Analysis for Cereal Products, American Association of Cereal Chemists. He was also co-principal investigator for U. S. Public Health Service.

JOHN H. WILLIAMS served as Director of Research, Atomic Energy Commission; member, Federal Council of Science and Technology; special consultant, President's Science Advisory Committee, and principal investigator, Atomic Energy Commission. He was also awarded an honorary Doctor of Science, University of British Columbia, 1958, and an honorary Doctor of Engineering, Pennsylvania Military College.

JOHN R. WINCKLER served as vice president, Comite International de Geophysique (IGY countries); member, Committee 8, Physics of Fields and Particles in Space, Space Science Board, National Academy of Sciences; member, Subcommittee on Particles and Fields, Space Sciences Steering Committee, National Aeronautics and Space Administration; member, Upper Atmosphere Panel, Polar Research Committee, National Academy of Sciences; and member, Committee on Geophysical Data, National Committee for the IGY. He received research grants from the Office of Naval Research, the National Science Foundation, and the National Aeronautics and Space Administration.

DONALD H. YARDLEY served as secretary-treasurer of the Twin City Geological Club.

ALBERT VAN DER ZIEL was elected to the International Radio Engineers; and was awarded research grants by the U. S. Air Force and the U. S. Army Signal Corps.

WILLIAM ZIMMERMAN was awarded a Student Fulbright Fellowship.

College of Veterinary Medicine

ROBERT K. ANDERSON served as president, National Conference of Public Health Veterinarians, 1959-60; vice chairman, Council on Public Health and

Regulatory Veterinary Medicine, American Veterinary Medical Association, 1959-60; and vice president, Minnesota Public Health Conference, 1959-60.

EMMETT N. BERGMAN received a research grant from the U. S. Public Health Service, National Institutes of Health.

DONALD H. CLIFFORD served as president, Metropolitan Veterinary Medical Society, 1959-60.

REUEL FENSTERMACHER was awarded a life membership, Minnesota State Veterinary Medical Society in January, 1960, for 40 years of continuous membership.

IRA M. G. GOURLEY was elected secretary, Twin City Veterinary Medical Society, 1959-60.

ARCHIE L. GOOD received a research grant from North Central Regional Experiment Station, 1959-60.

HENRY J. GRIFFITHS was elected president, Phi Zeta, 1960; and received a research grant from the U. S. Public Health Service, National Institutes of Health.

PAUL B. HAMMOND was elected to membership, American Society for Pharmacology and Experimental Therapeutics, April, 1960; and received a research grant from Agricultural Research, U. S. Department of Agriculture, 1959-60.

HARVEY H. HOYT was elected president, Phi Zeta, Minnesota Chapter, 1959; and received a research grant from the U. S. Public Health Service.

RALPH L. KITCHELL served as member, Committee on Animal Products, National Research Council, National Academy of Science, 1958-60; member, International Commission, Veterinary Anatomical Nomenclature, 1959-60; and technical adviser, Advisory Committee for the Humane Slaughter Program, Secretary of Agriculture, United States Government, 1959-60. He received research grants from Agricultural Research, U. S. Department of Agriculture, U.S. Public Health Service, and the Mark L. Morris Foundation.

ROBERT K. LINDORFER served as secretary-treasurer, 1958, vice president, 1959, and president, 1960, Henrici Society for Microbiologists. He received a research grant from the U. S. Public Health Service, National Institutes of Health.

KEITH I. LOKEN served as member, Board of Directors, Veterinary Medical Alumni Association, University of Minnesota.

DONALD G. LOW was elected secretary, Phi Zeta, 1959-60; and secretary, Metropolitan Animal Hospital Association, 1959.

GEORGE W. MATHER served as secretary, National Society of Phi Zeta, American Veterinary Medical Association, 1959-60; and member, Committee on Ophthalmology, American Animal Hospital Association, 1958-60. He was the recipient of a special grant from General Mills.

BENJAMIN S. POMEROY served as president, Twin City Veterinary Medical Society, 1959; elected president, American Association of Avian Pathologists, 1958-59; secretary-treasurer, Minnesota State Veterinary Medical Society, 1958-60. He received research grants from Agricultural Research, U. S. Department of Agriculture, Hess and Clark, Lederle Laboratories, Merck, Sharp and Dohme, Minnesota Turkey Growers Association, Inc., and Dr. Salsbury's Laboratories. He was made an honorary life member, National Turkey Federation, 1959.

JAY H. SAUTTER received research grants from the U. S. Public Health Service, National Institutes of Health, and the Atomic Energy Commission.

JOHN C. SCHLOTTHAUER was elected to Phi Zeta, 1959.

DALE K. SORENSEN served as research collaborator, Medical Department, Brookhaven National Laboratory, Atomic Energy Commission, 1958-60; chairman, Committee on Nomenclature of Animal Diseases and Operations, and the Council of Education, American Veterinary Medical Association, 1959-60; and received a research grant from the Atomic Energy Commission. He was elected to Gamma Sigma Delta, 1958.

CLARENCE M. STOWE was elected to membership in the American Society for Pharmacology and Experimental Therapeutics, April, 1960; and received research grant from North Central Regional Experiment Station, 1959-60.

MELVIN W. STROMBERG was elected secretary, Minnesota Veterinary Medical Alumni Association, January, 1960.

WILLIAM T. S. THORP served as member, National Advisory Council for Health Research Facilities, Public Health Service, 1960; representative, American Veterinary Medical Association, Task Force on Personnel Training and Utilization, American Medical Association; member, Visiting Committee, Medical Department, Brookhaven National Laboratories; member, Executive Committee, American Association of Land-Grant Colleges and State Universities; member, Educational Commission for Foreign Veterinary Graduates, American Veterinary Medical Association, 1960, representing the Association of Deans of the American Veterinary Colleges; member, Lobund Advisory Board, 1960; chairman, Animal Disease Committee, Institute of Laboratory Animal Resources, National Research Council, 1959; and member, Executive Committee, Animal Care Panel, 1960. He received the Distinguished Alumni Award, Michigan State University, June, 1960.

WALLACE M. WASS was elected editor, *Veterinary Alumni News*, University of Minnesota, 1960.

ALVIN F. WEBER served as president, Society of Phi Zeta, 1959-60. He was awarded a special research fellowship from the U. S. Public Health Service, 1959-60.

College of Education

ROBERT A. ANDERSON received a research grant from the Louis W. and Maud Hill Family Foundation.

CLIFFORD P. ARCHER served as member, Executive Committee, Department of Rural Education, president-elect, and chairman, Committee on Rural Life and Education on the World Scene, National Education Association; member, Midwest Work Conference on Education and Executive Committee; president, Minnesota Society for the Study of Education; chairman, Institute on Criteria for Evaluation of the Elementary School, 1959-60; and chairman, Committee on Intermediate Unit of School Administration, Minnesota Education Association. He also received the Past-President's Award, Minnesota Education Association.

GERTRUDE M. BAKER was elected fellow, American Academy of Physical Education, April, 1960.

BRUCE BALOW served as member, Advisory Committee on School Psychologists, State Department of Education, 1958-60; member, Executive Board, Minnesota School Psychologists, 1958-60; vice president and program chairman, Minnesota Reading Association; and member, Minnesota Association for the Brain Injured, 1959-60.

ROBERT H. BECK served as president, Philosophy of Education Society; and received a Louis W. and Maud Hill Family Foundation grant.

LADDIE BICAK was awarded a National Science Foundation Institute Scholarship.

EMMA BIRKMAIER served as consultant, U. S. Office of Education, Department of Health, Education, and Welfare; chairman, Advisory Committee of Foreign Languages, Minnesota State Board of Education; consultant to Modern Language Association of America; and chairman, Foreign Language Teachers' Petitioning Committee to establish a Department of Foreign Languages, National Education Association.

ELSE BOCKSTRUCK served as member, Committee on Elementary Physical Education, State Department of Education, 1960-61.

CLARENCE H. BOECK served as member, Science Education Research Committee, National Science Teachers Association; panel chairman, Junior High School Science Teachers convention; committeeman-at-large, Section Q, American Association for Advancement of Science; member, Advisory Committee on Teacher Education, and member, Subcommittee on Preparation of

Junior High School Teachers, State of Minnesota; member, writer's project on Earth Science Materials, American Geological Institute and National Science Foundation; and president, National Association for Research in Science Teaching.

GUY L. BOND served as chairman, Committee on Utilization of Research, National Conference on Research in English; member, Evaluation Committee, International Reading Association; member, Committee on Research in Reading, Carnegie Foundation; member, Committee on Gifted Children, Interim Committee on Exceptional Children, and chairman, Committee on Certification of Remedial Reading Teachers and Reading Supervisors, State Board of Education; member, Curriculum Coordinating Council, Minneapolis Public Schools; and member, Board of Directors, Minnesota Reading Association.

R. J. CAPOBIANCO served as chairman, Subcommittee on International Relations, American Association of Mental Deficiency; chairman, Education Committee, Minneapolis Association for Retarded Children; member, Admission Committee, Opportunity Workshop; member, Board of Directors, Minneapolis Association for Retarded Children; member, Board of Directors, Minnesota Council for Special Education; member, Board of Directors, Minnesota Association for Brain Injured; member, Board of Directors, Opportunity Workshop; and member, Advisory Board, Hammer School. He also directed research projects sponsored by the State Department of Public Welfare and the Minneapolis Association for Retarded Children.

ARNOLD CASWELL served as chairman, State Music Educators Conference, 1958-59; choral vice president, Minnesota Music Educators Association, 1959-61; adjudicator, Choral Clinician, Choral Festival Conductor, 1958-60; chairman, Committee to Revise Minneapolis Public School Music League List of required music for contests; member, Advisory Committee on Fine Arts, State Department of Education; chairman, Committee on Research, North Central Division of Music Educators National Conference, 1958-59; choral clinician, Schmitt Music Clinic, 1958 and 1960. Province Governor (for Minnesota and Wisconsin), Phi Mu Alpha Sinfonia.

THEODORE CLYMER served as chairman, Studies and Research Committee, member, Program Committee, chairman, Research Division, guest editor, research issue, *The Reading Teacher*, International Reading Association; member, Reading Research Committee, National Conference on Research in English; and research consultant to graduate faculty, Cardinal Stritch College, Milwaukee.

RAYMOND O. COLLIER, JR. served as editor, *Second Phi Delta Kappa Symposium on Research Design and Analysis*; member, Editorial Committee, AERA issue on Research and Statistics; and chairman, Symposium on Statistics and Research Methods, AERA.

WALTER W. COOK served as member, Board of Directors, National Society for the Study of Education; member, Executive Committee, American Association for College Teacher Education; and member, Commission on Research Planning and Review, Council for Research in Education. He also received a U. S. Office of Education Research Grant.

JAMES CURTIN served as member, Academically Talented Students Committee, National Education Association; president, Minnesota Elementary School Principals Association, 1958; and consultant at National Department of Elementary School Principals Association, Los Angeles.

DON DAVIES served as member, Minnesota State Commission on Teacher Education and Professional Standards; member, Executive Committee, Chairman, Subcommittee on Student Teaching and Reimbursement, and member, Minnesota State Advisory Committee on Teacher Education; member, Executive Committee, Tri-State Unit, and General Editor, *The Association for Student Teaching*; secretary, Higher and Professional Education Section, Minnesota Education Association; member, Advisory Board, *Journal of Teacher Education*, The National Commission on Teacher Education and Professional Standards, National Education Association of the United States; member, visitation team, the National Council for Accreditation of Teacher Education; co-chairman, new Subcommittee on School and Community Laboratory Ex-

periences, American Association of Colleges for Teacher Education; and chairman, Educational Television Subcommittee, and member, Board of Directors, Minneapolis Citizens Committee on Public Education.

WILLIS E. DUGAN served as president-elect and chairman, Committee on the Cooperative Study of Counselor Education, National Association of Guidance Supervisors and Counselor Trainers; member, Executive Council, and chairman, Committee on Professional Preparation and Standards, American Personnel and Guidance Association; member, Advisory Committee of Guidance Services, Minnesota State Department of Education; member, Executive Council, Minnesota Counselors Association; member, Editorial Committee, *Review of Educational Research*; member, Editorial Committee, American Association for Advancement of Science; consultant to National Defense Education Act Counseling Institutes Section, and consultant, Guidance Section, U. S. Office of Education.

RUTH E. ECKERT served as member, Educational Policies Commission, National Education Association; member, Advisory Committee, Office of Statistical Information and Services, American Council on Education; member, Standing Committee on Research, Educational Testing Service; member, Committee C (on college teaching), American Association of University Professors; member, Advisory Committee on Presbyterian Colleges in Missouri; and consultant, Leadership Training Project, North Central Association. She also received a U. S. Office of Education research grant.

WILLIAM H. EDSON served as consultant, St. Paul Teacher Recruitment Project; member, Student Personnel and Teacher Education; member, Commission on Counselor Preparation and Standards, American Psychological Guidance Association; member, State Advisory Committee on Teacher Education and Minnesota Committee on Teacher Education and Professional Standards; and member, National Committee on Teacher Education and Professional Standards.

MARCIA EDWARDS served as member, National Committee on Elementary and Secondary Education, American Association of University Women; member, Board of Directors, Minneapolis Citizens Committee on Public Education; member, Inter-Association Coordinating Committee, American Personnel and Guidance Association.

NED A. FLANDERS received research grants from the U. S. Office of Education.

DEWEY G. FORCE served as member, Board of Directors, St. Paul Association for Retarded Children; member, Executive Board, and president, Minnesota Council on Special Education; chairman, Commission on Christian Social Relations, Hamline Methodist Church, St. Paul; member, Home Visitation Study Committee, St. Paul Health Council; member, Section on Mental Deficiency, Minnesota Department of Public Welfare; and member, Nominating Committee, Council for Exceptional Children, National Education Association.

ROXANA R. FORD served as member, State Advisory Board for Vocational Education; and received research grants from the U. S. Office of Education and the State Department of Welfare.

WILLIAM E. GARDNER served as president, Phi Delta Kappa; and member, Board of Directors, Minnesota Council for the Social Studies.

CLIFTON GAYNE served as chairman, Accreditation Committee, 1958-59, chairman, Professional Standards Committee, 1960-61, Art Education Representative on the Coordinating Committee on Collegiate Problems of Teacher Education and liaison representative for the American Association of Colleges for Teacher Education and the National Council for the Accreditation of Teacher Education, 1960-61; program chairman, College Teachers of Art Education, National Art Education Association; consultant on Certification of Art Teachers for 18th Annual Conference of the National Committee on Art Education, Museum of Modern Art, New York, 1960; member, Planning Committee for convention in Dallas, Texas, 1960, chairman, Committee on Standards for Preparation of Art Teachers, Western Arts Association, 1960-61; chairman, Advisory Committee on the Fine Arts, Minnesota State Department of Education, 1960-61; board member, chairman, Planning Committee, St. Paul

Council of Arts and Science, 1959-60; chairman, Advisory Committee on Education, Minneapolis Art Institute; consultant, Minnesota Rural Art Association, 1959-60; and board member, International Institute, St. Paul, 1959-60.

CHARLES J. GLOTZBACH served as State Representative, National Vocational Guidance Association.

CARL GOOSSEN was given a citation at Winona State College, Winona, Minnesota, on May 28, 1960.

VIGGO P. HANSEN was elected to Phi Delta Kappa.

W. REID HASTIE served as president, 1958-59, chairman, Executive Council, 1958-59, member, Executive Council, 1959-60, chairman, Policy Committee, chairman, Planning Committee, chairman, Screening Committee for New Publications, chairman, Planning Committee for the National Conference held in New York, 1959, National Art Education Association; chairman, Fine Arts Section, Regional Meeting, and Commission on Teacher Education and Professional Standards, and member, Committee for the Study of the Academically Talented Child, National Education Association.

HELEN HAUPTFUEHRER served as president, Epsilon Chapter, Pi Lambda Theta, 1959-60; and vice president, Epsilon Chapter, Pi Lambda Theta, 1958-59.

ALLEN HODGES served as consultant, Special Education Division, Department of Education, 1959-60; member, Mental Health Planning Committee, Episcopal Diocese of Minnesota, 1959-60; member, Citizen's Review Committee, Community Mental Health Services, State Department of Public Welfare, 1959-60; member, State Board of Examining Psychologists, 1959-60; and program director, National Institute of Mental Health Training Grant.

AMY JEAN HOLMBLADE served as president, National Association of Teacher Education in Home Economics, American Vocational Association; and consultant, Home Economics Department, Concordia College.

CYRIL HOYT served as co-director, Research Project on Attitudes of Home Economics Teachers, U. S. Office of Education; and consultant, Subcommittee on Libraries in Elementary Schools, Minneapolis Citizens Committee on Public Education.

PAUL S. IVORY served as committee member, Minnesota Music Educators Association; music critic for Minneapolis Star and St. Paul Pioneer Press; adjudicator, Minneapolis Public School Music League; delegate, Music Educators National Conference, Music Department, National Education Association; member, Editorial Associates, *Journal of Research in Music Education*; and music critic (Minneapolis) for *Musical America*.

ROBERT L. JACKSON was elected president, Minnesota Council of Teachers of Mathematics, 1959-60.

ELOISE M. JAEGER served as co-director, Student Services, National Division of Girls and Women's Sports; research chairman, National Association of Physical Education for College Women, 1959-61; and member, Constitution Committee, Minnesota Association for Health, Physical Education, and Recreation, 1959-60. She also received an honor award from the Central District for Health, Physical Education, and Recreation, April, 1959.

DONOVAN JOHNSON was chosen co-chairman, Subcommittee on Aids to Teaching of the Secondary School Curriculum Committee, National Council of Teachers of Mathematics; editor—26th Yearbook, *The Evaluation of Achievement in Mathematics*; member, Advisory Committee on School Science and Mathematics, State Board of Education; and member, School Mathematics Study Group, Seventh Grade Writing Team.

FRED A. JOHNSON was elected to membership in Phi Delta Kappa; and served as business manager, *Bulletin*, Minnesota Council for the Social Studies.

WILLIAM A. KAVANAUGH served as member, State Curriculum Committee for revision of curriculum Bulletin No. 13, chairman of Philosophy section 1959-60.

STANLEY B. KECLER was elected to the Advisory Committee, Language Arts and Related Humanities, State Board of Education; chairman, Subcommittee on Dissemination of Materials and Methods; executive secretary, Minnesota Council of Teachers of English; and editor, *Minnesota English Newsletter*.

ROBERT J. KELLER was chosen director of research, Legislative Interim Committee on Higher Education, State of Minnesota, 1958-59; director, Higher Education Study, Legislative Council, State of Kansas, 1959-60; chief contributor and director, U. S. Office of Education Research Grant; president, Westminster Foundation Board, Synod of Minnesota, 1959-60; chairman, Personnel Committee, 1958-59; chairman, Educational Research Panel, Project TALENT, U. S. Office of Education and University of Pittsburgh, 1958-60; chairman, Committee on Publications and Public Information, North Central Association of Colleges and Secondary Schools, 1960; chairman, Editorial Committee, *High School-College Relations Newsletter*, 1959-60; acting executive secretary, North Central Association of Colleges and Secondary Schools, 1959-60; member, Junior College Advisory Committee, State Board of Education, Minnesota, 1958-60; member, Board of Directors and Chairman, Sixth Year Program Committee, Minnesota Association of Secondary School Principals, 1958-60; member, Department of Ministerial Relations, United Presbyterian Church of U.S.A., 1958-60; secretary, 1960; member, General Assembly Committee on the Church and Higher Education, United Presbyterian Church of U.S.A., 1959-60; member, Minnesota State Committee, and chairman, Visiting Committee for Accreditation of Orono Junior-Senior High School, North Central Association, 1958-60; and received the Distinguished Alumni Award, Winona State College, June, 1960.

JEANNE R. KENMORE served as chairman, Section on Blind and Partially Seeing Children, Mid-West Regional Workshop, Elliott Congressional Study; chairman, Public School Membership Committee, American Association of Instructors for the Blind; member, Subcommittee on the Visually Handicapped, Minnesota State Advisory Board; and member, Educational Materials Committee, Minnesota State Department of Public Welfare.

HARRY W. KITTS was presented a plaque "in appreciation for outstanding service to the Future Farmers of America" by that organization, 1960 State Convention; served as advisory member, Committee on Standards for Training Teachers of Vocational Agriculture, American Society of Agricultural Engineers, 1958-60; and member, Editorial Advisory Board, *Successful Farming Magazine*, 1958-60.

PATRICIA LAMB served as second vice president, Minnesota Chapter, Pi Lambda Theta, 1959-60; and member, Minnesota Governor's Council on Fitness.

R. PAUL MARVIN served as chairman, School Board, School District 12—Centennial Schools—S. E. Anoka County, 1959-60; and state director, Minnesota Tuberculosis and Health Association, 1959-60.

WARREN G. MEYER served as consultant, Research in Distributive Education, member, Advisory Council on Distributive Education, member, Research Committee, Central Region, U. S. Office of Education, Distributive Education Service; consultant, Business and Distributive Education, Vocational Division, State Department of Education; chairman, Distributive Education Policy and Planning Committee, and member, Research and Publications Committee, American Vocational Association; consultant, Executive Committee, and member, Long Range Planning Committee, Minnesota Vocational Association; consultant, Executive Committee, Minnesota Business Education Association; member, Equipment Committee, Delta Phi Epsilon; editor, *United Business Education Association*; and editor, *Viewpoints*, Minnesota Vocational Association. He also received a State Department of Education research grant.

JOSEPH MICHEL was awarded a National Science Foundation Institute Scholarship.

GORDON M. A. MORK served as member, Executive Board, and State Ethics Commissioner, Hennepin Division, Minnesota Education Association; chairman, Education Committee, Governor's Advisory Council on Children and Youth; participant, Golden Anniversary White House Conference on Children and Youth, Washington, D.C., 1960; and participant and forum leader, State White House Conference on Children and Youth, St. Paul, 1960.

PAUL M. OBERG served as executive secretary-treasurer, Minnesota Public School Music League; and member, Commission on Curriculum, National Association of Schools of Music.

WILLIAM OJALA was elected to Phi Delta Kappa.

ROGER OLSTAD was awarded National Science Foundation Institute Scholarship.

ROBERT O'NEILL was elected to Phi Delta Kappa.

NEVILLE P. PEARSON served as chairman, Local Board 122, Selective Service; chairman, Standards Committee, Department of Audio-Visual Instruction, National Education Association; and president, Audio-Visual Board, Augustana Lutheran Church.

MILO J. PETERSON served as secretary, American Association of Teacher Educators in Agriculture, 1959-60; chairman, Minnesota Citizens Committee on Public Education, 1959-60; superintendent, Education Department, Minnesota State Fair, 1958-60; president, St. Anthony Park Association, 1958-59; and member, Minnesota Coordinating Committee on Education, 1958-60.

MAYNARD C. REYNOLDS served as member, Governing Board, and editor, Special Publications, Council for Exceptional Children, National Education Association, 1958-60; chairman, Minnesota State Advisory Board on Handicapped, Gifted and Exceptional Children, 1958-60; member, Subcommittee on the Mentally Retarded, Minnesota Legislative Interim Commission on Mentally Retarded, Gifted and Handicapped Children, 1960; member, Advisory Committees on Volunteer Services and on State Services for the Blind, State Department of Welfare, 1958-60; co-chairman, Midwest Regional Workshop on Gifted Children, Committee on Education and Labor, U. S. House of Representatives; member, Executive Council, Minnesota Psychological Association, 1958-60; member, Board of Directors, Minnesota Council for the Gifted, 1958-60; and resource person, Golden Anniversary White House Conference on Children and Youth, May, 1960.

JOHN SIMMONS was elected to Phi Delta Kappa.

HELEN SLOCUM served as vice president for Health, Central District for Health, Physical Education, and Recreation, April, 1960; chairman, Legislative Committee, Central Association for Physical Education of College Women, 1959-60; consultant to Workshop for Administrators, State Department of Health, June, 1960; and member at large, Board, Central Association for Physical Education of College Women, 1960-62. She also received an honor award from the Central District for Health, Physical Education, and Recreation, April, 1960.

THOMAS A. SOLDAHL served as delegate, American School Counselors Association to the national Convention of the American Personnel and Guidance Association; membership chairman, State of Minnesota, and chairman, Minnesota National Legislative Affairs, American Personnel and Guidance Association; chairman, Legislative Committee, Minnesota Counselors' Association; and president, Student Personnel Section, Minnesota Education Association.

LELA JUNE STONER served as treasurer, Minnesota Chapter, Pi Lambda Theta, 1959-60; and member, Research Committee, Minnesota Association for Health, Physical Education, and Recreation, 1959-60.

GORDON I. SWANSON served as recording secretary, 1958-59, and 2nd vice president, 1959-60, Phi Delta Kappa; member, Board of Directors, University YMCA, 1958-60; specialist in Vocational-Technical Education, UNESCO, 1959-60; editor, 1958 Yearbook, Rural Department, National Education Association.

W. WESLEY TENNYSON served as member, Advisory Committee on Guidance, Minnesota State Department of Education; chairman, Editorial Board, *The Vocational Guidance Quarterly*; chairman, Publications Committee, National Vocational Guidance Association; and member, Publications Committee, American Personnel and Guidance Association.

E. PAUL TORRANCE served as member, Advisory Committee on Acceptance Research for Quartermaster Food and Container Institute for the Armed Forces, National Academy of Science; reviewed research proposals for Air Force Office of Scientific Research, Behavioral Sciences Division, and National Science Foundation, Social Sciences Division and Extreme Conditions Division; served as consultant, Veterans Administration Hospital, Vocational Rehabilitation Division and Mental Hygiene Division; consultant, Mental Hygiene Division, State Health Department, Georgia; and received research

grants from the Cooperative Research Branch, U. S. Office of Education, Louis W. and Maud Hill Family Foundation; and was also elected secretary, Minnesota Society for the Study of Education.

LOUIS WALTERS was awarded a National Science Foundation Institute Scholarship.

EDITH WEST was elected member, College Board Advisory Committee for Social Studies; member, Advisory Board, Minneapolis Star World Affairs Program; member, Advisory Committee on Social Studies, State Department of Education; editor, *Minnesota Council of Social Studies Bulletin*; and co-ordinator, Minnesota Council of Social Studies.

HAROLD T. WIDDOWSON served as member, Committee on Job and Safety Training for Line Employees, Vocational Division, State Department of Education; and member, Committee on Municipal Water-Light Power, Vocational Division, State Department of Education.

ROGER E. WILK served as committee chairman, State Membership, American College Personnel Association, 1958-59; research consultant, Emporia State Teachers College, Emporia, Kansas, July, 1959; and received a research grant awarded by U. S. Office of Education.

MARJORIE WILSON served as member, Steering Committee, Minnesota Governor's Council on Fitness; member, Accreditation Committee, Alexander Ramsey School, April, 1960; and member, Committee on Statements of Competencies, National Conference on Science Core in Physical Education, 1959-60. She also received an honor award from the Central District for Health, Physical Education, and Recreation, April, 1960.

JAMES K. WINFREY was elected to Phi Delta Kappa; and to Psi Chi.

ARNOLD S. WOESTEHOFF served as member, Executive Board, National Institutional Teacher Placement Association to December, 1958; special consultant, Conference on Staffing in Higher Education, U. S. Office of Education, 1960; and member, Planning Committee, Regional Instructional Conference, National Education Association, 1959-60.

STANLEY G. WOLD served as a member, Research Committee, member, Research Board, member, Editorial Board for Ninth Yearbook: *Research in Art Education*, National Art Education Association; and member, Executive Board, Minnesota Art Education Association.

C. GILBERT WRENN served as editor, *Journal of Counseling Psychology*; member, Personnel Committee, Metropolitan YMCA, Minneapolis; consultant, Veterans Administration Hospital; member, Advisory Committee, Educational Testing Service; staff, Midwest Terminal Conference of Fulbright Scholars; member, American Board of Psychological Services, American Psychological Association; member, Commission on College Student Personnel Monograph, American College Personnel Association; project director, Commission on Guidance in American Schools, American Personnel and Guidance Association; member-at-large, Executive Council, American College Personnel Association; member, Personnel Association, National Board of Missions, Methodist Church; member, National Committee on Counseling, YMCA; editorial adviser, Houghton-Mifflin Co.; consultant, Office of Education, U. S. Department of Health, Education, and Welfare; and consultant, Vocational Rehabilitation and Education Program, Veterans Administration. He also received a plaque from the New York Life Insurance Company.

RAY ZIEBARTH was elected to Phi Delta Kappa.

GENE ZITO was awarded a Fulbright fellowship.

Institute of Child Development and Welfare

JOHN E. ANDERSON served as member, National Advisory Committee, White House Conference on Aging; member, Inter-University Council on Social Gerontology; member, Advisory Committee on Human Genetics, Minnesota State Board of Health; chairman, Planning Committee on Research in Gerontology, Psychological and Social Sciences; and received a National Institute of Mental Health research grant.

DALE B. HARRIS received a U. S. Office of Education research grant.

ELEANOR L. ROBINSON served as member, Correctional Institutions and Correctional Camps Committee, Governor's Advisory Council on Children and Youth.

MERRILL F. ROFF received research grants from the National Institute of Mental Health and the U. S. Army Medical Research and Development Command.

HAROLD W. STEVENSON served as consulting editor, *Child Development, Journal of Genetic Psychology*; member, Committee on Intellectual Processes, member, Social Science Research Council, member, Committee on Certification of Nursery School Teachers, Minnesota State Department of Education; and received research grants from the National Institute of Mental Health and the National Science Foundation.

MILDRED C. TEMPLIN served as associate editor, *Journal of Speech and Hearing Disorders*; chairman, Ad Hoc Committee for the Clarification of Fellowship and Membership Status, Society for Research in Child Development; representative, American Speech and Hearing Association, to the Council of American Associations for the Advancement of Science; and received research grants from the U. S. Office of Education.

College of Medical Sciences

PAUL ADAMS served as member, Board of Directors, Minnesota Heart Association, 1958-60; president, Minnesota Society for the Study of the Heart and Circulation, 1959-60; and member, Section on Cardiology, American Academy of Pediatrics, 1958-60.

RUTH D. ABBOTT served as member, Steering Committee, Department of Public Health Nursing, Minnesota League of Nursing.

CARL S. ALEXANDER received research grants from the U. S. Public Health Service.

JOHN D. ALLISON served as director and member, Executive Committee, Minnesota Chapter, American Physical Therapy Association; and chief delegate, Minnesota, National Convention of the American Physical Therapy Association, 1960.

RAY AMBERG served as president, and chairman, House of Delegates, member, Board of Directors, Hospital Research and Educational Trust, American Hospital Association; member, Program Committee, National Health Council; member, Advisory Board, chairman, Federal Construction Allocation for Hospitals (Hill-Burton), Hospital Licensure and Standardization, Registration of Hospital Administrators, Governor Freeman's Task Force, Minnesota State Department of Health; and consultant to the Surgeon General, U. S. Navy.

GAYLORD W. ANDERSON served as a consultant to the Surgeon General, Public Health Service; member, Advisory Board, Robert H. Taft Sanitary Engineering Center; member, Senior Research Fellowship Award Committee; consultant on medical intelligence, Surgeon General of the Army; special consultant, World Health Organization; chairman, Poliomyelitis Advisory Committee, Minnesota State Board of Health; member, Executive Committee, Health and Medical Care Section, Health and Welfare Council, Minneapolis and Hennepin County; and member, Governing Council, and member of committees on Communicable Disease Control and on International Health, American Public Health Association. He also received from the Minneapolis Junior Chamber of Commerce, the Frank Harrington Award for Distinguished Service to Public Health.

JOHN A. ANDERSON served as member, Governor's Advisory Committee on Mental Health, 1958-60; member, Board of Directors, Minneapolis Association for Retarded Children, 1959-60; member, Membership Committee, Minnesota Heart Association, 1958-60; member, Public Health Committee, Minnesota Medical Association, 1958-60; board member, Human Genetics League, 1959-60; member, Committee on Genetics, 1959-60, and member, Poliomyelitis Advisory Committee, Minnesota State Board of Health, 1958-60; member, Wyeth Fellowship Committee, 1958-60; associate editor, *Advances in Pediatrics*, 1958-

60; editor, *American Lecture Series*, 1958-60; member, Editorial Board, *Pediatrics*, 1958-60; member, Examining Board, American Board of Pediatrics, 1959-60; member, Committee on Pediatric Residency Review, American Medical Association, 1958-60; consultant, Collaborative Paranatal Study Program, Paranatal Division, Neurologic Diseases and Blindness Section, National Institutes of Health, 1958-60; and vice president, National Physicians' Council, New York Academy of Sciences, 1958-60.

JOSEPH T. ANDERSON was awarded a research grant from the United States Public Health Service.

RAY C. ANDERSON served as member, Minnesota Advisory Committee on Human Genetics, 1959-60; member, Committee on Malformations and Radiation Hazards, American Academy of Pediatrics, 1958-60; and member, Program Committee, American Society of Human Genetics, 1959-60.

RICHARD W. ANDERSON served as chairman, Mental Health Policy Committee, Department of Public Welfare, State of Minnesota, 1959-60.

WALLACE D. ARMSTRONG served as chairman, Gordon Research Conference on Bones and Teeth, 1959; member, Board of Scientific Counselors, National Institute of Dental Research, 1959-60; member, Board of Review, Division of Biology and Medicine, Argonne National Laboratory, 1959-60; member, Committee on Human Uses of Radioisotopes, Atomic Energy Commission, 1959-60; member, Board of Directors, Associated Midwestern Universities, 1960; member, Editorial Board, American Physiological Society, 1959-60; consultant, U. S. Air Force, 1959; and received research grants from the Commonwealth Fund, the U. S. Public Health Service, the Atomic Energy Commission and the U. S. Army, 1960.

ELIA M. AYOUB received a fellowship from the Helen Hay Whitney Foundation, 1960; and served as member, Northwestern Pediatric Society, 1960.

ABE B. BAKER was elected to the Norwegian Academy of Science and Letters, May, 1959, and the American Board of Psychiatry and Neurology, 1958; and was awarded a Fulbright Teaching Professorship to the University of Oslo. He also received research grants from U. S. Public Health Service; and served as consultant, National Institute of Neurological Diseases and Blindness to the Near and Far East.

CYRUS P. BARNUM, JR. received research grants from the U. S. Public Health Service and the American Cancer Society.

JACOB E. BEARMAN served as member, and vice chairman, 1958-59, and chairman, Subcommittee on Reporting Forms, Research Advisory Committee, Community Welfare Council of Minneapolis and Hennepin County; statistical consultant, Cooperative Study on Anti-coagulation, National Institutes of Health and Abbott Laboratories; member, Special Advisory Committee on Epidemiology and Biometry, National Institutes of Health; and chairman, Evaluations Committee, First Special Graduate Summer Session of Statistics in the Health Sciences.

ELEXIOUS T. BELL was awarded the Shield of the Michigan Pathological Society, 1958; medal, Minnesota Academy of Medicine, 1959; Banting Distinguished Service Medal, American Diabetes Association, 1959; D.Sc., honorary degree, University of Missouri, 1959. He was also elected to membership, Fifty-Year Club, Minnesota State Medical Association, 1958; and was recipient of a research grant from the U. S. Public Health Service.

ERNEST M. BERKAS was awarded a research grant from the National Institutes of Health; and was appointed to the Hennepin County Civil Defense Medical Committee.

JOHN J. BITTNER served as member, 7th International Cancer Congress, London; Conference on Genetic Concept for the Origin of Cancer, New York Academy of Science; and member, Theobald Smith Award Committee.

HENRY W. BLACKBURN, JR. served as member, Community Services Committee, and Consulting Physician, Cardiac Work Evaluation Unit, Minnesota Heart Association.

BETTY W. BOND served as chairman, Public Health Education Section, American Public Health Association, 1959-60; trustee, Board of Trustees, Society of Public Health Educators, 1958-59; member, Governor's Citizens' Coun-

cil on Aging; and member, Minnesota Steering Committee for the White House Conference on Aging, 1959-60.

HERBERT M. BOSCH served as member, Committee on Sanitary Engineering and the Environment and chairman, Subcommittee on Waste Disposal, member, Advisory Committee on Civil Defense, National Academy of Science—National Research Council; member and vice president, Minnesota State Board of Health; member, Governing Council, American Public Health Association; member, U. S. delegation to the 12th World Health Assembly, Geneva, Switzerland, May, 1959; consultant to the governments of Brazil, Argentina, and Chile August-September, 1959 and to the government of Mexico April, 1959; member, Commission on Environmental Health, Armed Forces Epidemiological Board; consultant, International Cooperation Administration, the Surgeon General, United States Army, and the U. S. Public Health Service; and was awarded the medal of the University of Missouri for distinguished service to engineering, April, 1959.

PAUL D. BOYER served as member, Biochemistry Study Section, U. S. Public Health Service; chairman, Division of Biological Chemistry, American Chemical Society; chairman, Nominating Committee, American Society of Biological Chemists; senior editor, *The Enzymes*; executive editor, *Archives of Biochemistry and Biophysics*; member, editorial committee, American Society of Biological Chemists. He also received research grants from the U. S. Public Health Service and the Atomic Energy Commission.

S. GAYLEN BRADLEY served as member, Subcommittee on Actinomycetes, Society of American Bacteriologists; president, Henrici Society for Microbiologists; secretary-treasurer, Minnesota Chapter, Society for Experimental Biology and Medicine; and was awarded research grants by the U. S. Public Health Service and the Office of Naval Research.

ALLOYS F. BRANTON served as member, Reorganization Committee, Visiting Nurses Association.

FLORENCE BRENNAN served as panel participant "Nursing Care of the Aging," Minnesota League for Nursing Convention; curriculum consultant, St. Marys Hospital, Rochester, Minnesota.

FRANK R. BRIGGS served as president, Minnesota Hospital Association, 1958-59; chairman, Subcommittee on Classification of Nursing Homes, Governor's Citizens Council on Aging, 1959-60; member, Executive Committee, Minneapolis War Memorial Blood Bank, 1958-59; vice chairman, Employee Division, Community Chest of Hennepin County, 1959; and was advanced to Fellowship, American College of Hospital Administrators, August 23, 1959.

BYRON WILLIAM BROWN, JR. served as biostatistical consultant, Committee on Lesions, Council on Arteriosclerosis, American Heart Association, 1958-60; served as biostatistical consultant, National Institutes of Health and Abbott Laboratories; was elected treasurer, 1958-59, and secretary, 1959-60, Minnesota Section for Quality Control; served as member, Evaluation Committee, Institute of Mathematical Statistics; and consultant, Minnesota State Department of Health, Education and Welfare.

E. B. BROWN, JR. served as member, Advisory Committee on Science and Mathematics, chairman, Subcommittee on Science Requirements for Certification of High School Agriculture and Home Economics Teachers, State Board of Education; chairman, Section on Respiration, American Physiological Society; and received research grants from U. S. Air Force School of Aviation Medicine, United States Public Health Service, and the Minnesota Heart Association.

J. J. BUCKLEY, served as president, Minnesota Society of Anesthesiologists, 1959-60; delegate to the 1959 American Society of Anesthesiologists annual meeting; and was elected to membership in the Academy of Anesthesiology in October, 1959 and to membership in the Association of University Anesthetists in January, 1960.

ALBERT W. BUZICKY served as member, Minnesota Atomic Energy Development Problems Committee, 1958-59; member, Board of Directors, North Central States Branch, Entomological Society of America, 1958-60; and member, Committee on Membership, American Mosquito Control Association, 1960.

CURTIS H. CARLSON was elected to Sigma Xi; and served as a consultant, Kettering Laboratories, October, 1959.

CHARLES W. CARR was awarded a research grant, United States Public Health Service.

W. O. CASTER served as U. S. Public Health Service Special Research Fellow of the National Heart Institute, 1958-60; member, Minnesota Atomic Development Problems Committee, and chairman, Task Group on Known Quantitative Standards for Determining Degrees of Hazard to Human Beings from Radiation, 1958-60; member, Committee on Nutrition and Response to Doses of Whole Body Ionizing Radiation, National Academy of Sciences—National Research Council; member, Advisory Board on Quartermaster Research and Development, 1959-60; and received a U. S. Public Health Service research grant.

H. MEAD CAVERT served as ex-officio member, Board of Trustees, Minnesota Medical Foundation, 1958-60; member, Committee of Management, University Branch, Minneapolis YMCA, 1958-60; member, Board of Parish Education, the American Lutheran Church, 1959-60; member, Board of Directors, Minnesota Lutheran Student Foundation, 1958-59; and received research grants from Minnesota Heart Association, and the United States Public Health Service.

SHELLEY N. CHOU served as visiting scientist, National Institute of Neurological Diseases and Blindness, National Institutes of Health, United States Public Health Service.

DONALD F. CLAUSEN received a U. S. Public Health Service research grant.

NORA CLINE served as member, Committee on Public Health Nursing Education, Department Baccalaureate and Higher Degree Programs, National League for Nursing; and member, Training Committee, National Institute of Mental Health, Public Health Service, Department of Health, Education, and Welfare.

MARGARET CLIPPER served as board member, Minnesota Epilepsy League; chairman, Functions, Standards and Qualifications Committee, Institutional Nursing Service Administrative Section, Minnesota Nurses Association; member, Membership Committee, Minnesota Rehabilitation Association; and member, Committee on Professional Nurse Practice, Minnesota Nurses Association.

JOHN I. COE was elected editor, *Minnesota Medicine*; and served as member, American Academy of Forensic Sciences.

MYRTLE H. COE served as member, National Committee of Sponsors, American Nurses' Foundation; member, Executive Committee on Community Service and Education, American Heart Association; member, Committee on Education, Council on Rheumatic Fever and Congenital Heart Disease; official delegate to American Heart Association Assembly, 1958, 1959, 1960; member, Board of Directors and Committee on Staff Personnel, Minnesota Heart Association; member, Editorial Board, *Journal of Chronic Diseases*; member, Scholarship Advisory Committee, Group Health Association; member, Minneapolis General Hospital School of Nursing Advisory Committee; and member, Committee on Scholarships for Higher Education, Hennepin Avenue Methodist Church.

MAYNARD M. COHEN served as member, Post-Graduate Training Grant Committee, National Institute of Neurological Diseases and Blindness, 1959-60; secretary, Section on Neurochemistry, chairman, Committee on Membership and Placement, member, Special Courses Committee, American Academy of Neurology, 1958-60; secretary-treasurer, Minnesota Society of Neurology and Psychiatry, 1958-60; and chairman, Medical Advisory Board, Hennepin County Multiple Sclerosis Society, 1959-60.

ELIZABETH M. CRANSTON was elected fellow in American Association for the Advancement of Science, 1960; second vice president, local chapter, Sigma Delta Epsilon, 1959-60; and received a U. S. Public Health Service research grant.

C. D. CREEVY served as editor, *Journal of Urological Survey*; and president-elect, Minnesota Academy of Medicine.

MARY CROOK served as secretary, Medical-Surgical Conference Group, Third District, Minnesota Nurses Association, 1960.

RICHARD B. DAVIS received research grants from the U. S. Public Health Service, the Minnesota Heart Association, and the American College of Physicians.

JAMES R. DAWSON, JR. served as member, Board of Trustees, Saint Paul Institute, 1958-61; and member, Research Committee, Minnesota Division, American Cancer Society.

RICHARD A. DEWALL was awarded research grants from the American Heart Association.

RICHARD P. DOE served as biochemist, V. A. Cooperative Urological Research Project; and was awarded research grants from the U. S. Public Health Service and the Upjohn Company.

ALFRED DOSCHERHOLMEN was elected to the Central Society for Clinical Research.

DONALD W. DUNN served as member, Civil Service Examining Board for Assistant Superintendent of Hospitals, City of Minneapolis, June, 1960.

FRANCES E. DUNNING was elected treasurer, Sigma Theta Tau, National Honor Society of Nursing, 1960; and was awarded a Rockefeller Foundation Travel Grant.

GRACE MARY EDERER won second award as co-author, Scientific Products Company, American Society of Medical Technologists.

FLORENCE ELLIOTT served as secretary, Department of Hospital Nursing, Minnesota League for Nursing, 1958-59; chairman, Public Information Committee, 1958-59, secretary, Supervisors Sub-unit, Institutional Nursing Service Administrative Section, 1958-59, chairman, Institutional Nursing Service Administrative Section, Minnesota Nurses Association, 1959-60; secretary, Board of Directors, University of Minnesota School of Nursing Foundation, 1958-60; and vice president, Zeta Chapter, Sigma Theta Tau, 1959-60.

JEAN ELLISON was elected to membership in Sigma Theta Tau, April, 1959; and Pi Lambda Theta, May, 1959.

JOSEPH P. ENGEL served as Medical Consultant, Aid to Disabled, Division of Public Welfare, State of Minnesota.

G. T. EVANS was awarded a U. S. Public Health Service research grant.

WALTER A. FANSLER was elected president, American Proctologic Society; and was elected honorary member, Royal Society of Medicine, London, July, 1959.

WILLIAM J. L. FELTS was elected member, Orthopedic Research Society; honorary member, Canadian Association of Anatomists; and received a National Science Foundation research grant.

DONALD J. FERGUSON was awarded research grants from the National Institutes of Health, and the American Cancer Society, Minnesota Division.

MARIE FORD served as secretary-treasurer, Conference of State and Territorial Directors of Public Health Education, 1958-59, president-elect, 1959-61; member, Board of Directors, Hennepin County Tuberculosis Association, 1958; member, Steering Committee, Department of Public Health Nursing, Minnesota League for Nursing, 1959-61; member, Board of Directors, Visiting Nurse Service, Minneapolis, 1958; member, Public Relations Committee, WHO-Minnesota Centennial Health Committee, 1958; and member, Health Committee, Governor's Conference on Aging, 1958 and 1960.

MARY LU FRANKLIN served as editor, *Minnesota Dietetic Association Bulletin*.

LYLE A. FRENCH served as president, Minneapolis Academy of Medicine, 1960; editor, Section of Neurological Surgery, *Cancer Yearbook*; Paul Bucy lecturer, Northwestern University; and member, National Advisory Council, Institute of Neurological Diseases and Blindness. He also received research grants from the Sister Elizabeth Kenny Foundation, Morris T. Baker Memorial Neurosurgical Research Fund, Brantner Fund for Neurosurgical-Neurological Research, and U. S. Public Health Service.

EDNA L. FRITZ served as member, Committee for Planning Nursing Education Needs for Minnesota, Minnesota League for Nursing; member, Planning Committee for State-wide Workshops on Associate Degree Programs in Nursing; member, Advisory Committee on Disaster Nursing, National League for Nursing; and was elected to Sigma Theta Tau.

DOROTHY GEIS represented the National League for Nursing at the Golden Anniversary White House Conference on Children and Youth; and served as president, Zeta Chapter, Sigma Theta Tau.

ERNST GELLHORN was honored for "Outstanding Achievement in Medical Research," by the Carbon Dioxide Research Association, 1958.

A. SIGRID GILBERTSEN served as vice chairman and chairman, Board of Education, School District 16, Anoka County, Minnesota; and member, Faculty Advisory Committee to the Counselor, Minnesota Chapter, Alpha Omega Alpha Medical Fraternity, 1959-60.

GERTRUDE M. GILMAN served as member, Committee on Nursing, member, Liaison Committee, National League of Nursing, American Hospital Association; member, Steering Committee, Minnesota League for Nursing; and chairman, Administrative Practices Committee, Twin City Regional Hospital Council.

DAVID GLICK served as editor, *Methods of Biochemical Analysis*; and consultant, U. S. Army, Fort Detrick, Maryland. He was also awarded a Commonwealth Fund Fellowship.

BERNARD C. GLUECK, JR. served as member, Medical Policy Committee, State Department of Public Welfare, 1958-60; board member, Minnesota Mental Health Association, 1958-60; and treasurer, American Psychopathological Association, 1958-60.

FREDERICK C. GOETZ served as member, Minnesota Society of Internal Medicine, 1958; and received research grants from the Minnesota Medical Foundation, and the U. S. Public Health Service.

ROBERT W. GOLTZ served as president, Minnesota Society of Occupational Medicine and Surgery, 1960.

ROBERT A. GOOD served as member, Scientific Council, member, Basic Science Section, chairman, Research Study Committee, Council on Rheumatic Fever and Congenital Heart Disease, American Heart Association; member, Council, Central Society for Clinical Research; member, Board of Directors, chairman, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation; secretary, member, Board of Directors, and chairman, Committee on Rheumatic Fever, Minnesota Heart Association; member, Committee on Rheumatology and Rheumatic Diseases, Minnesota State Medical Association; program chairman, Northwestern Pediatric Society; and member, Hematology Study Section, U. S. Public Health Service. He was a member, Editorial Board, *Journal of Diseases of Children*, American Medical Association; member, Editorial Board, *Arthritis and Rheumatism*; corresponding editor, *International Archives of Allergy and Applied Immunology*; member, Editorial Board, *Journal of Clinical Investigation*; associate editor, *Journal of Laboratory and Clinical Medicine*; and member, Editorial Board, *Modern Medicine*. He was also vice president, Parent-Teacher Association, Motley School, Minneapolis; member, Committee on Management, Southeast Branch, YMCA, Minneapolis; member, Unitarian Service Commission Medical Exchange Team to France, Germany, Switzerland, and Czechoslovakia; member, Advisory Council, Children's Hospital Research Foundation, Cincinnati, Ohio; and consultant, Veterans Administration Hospital, Minneapolis. He also received research grants from the Minnesota Division of the American Cancer Society, the American Heart Association, the Arthritis and Rheumatism Foundation, the Minnesota Heart Association, the Louis W. and Maud Hill Family Foundation, the National Foundation, Smith, Kline and French, the U. S. Public Health Service, and the Helen Hay Whitney Foundation.

JOHN R. GORDON served as secretary-treasurer, Minnesota Society of Anesthesiologists, 1958-60.

MARGARET F. GRAINGER served as president, Third District Minnesota Nurses Association, 1958-60; and member, Donaldson's Consumer Advisory Board.

FRANCISCO GRANDE was awarded a research grant from the United States Public Health Service, and the American Heart Association.

IAN GREGORY was elected to Delta Omega, June, 1959, and Phi Kappa Phi, December, 1959.

EUGENE D. GRIM served as senior research fellow, U. S. Public Health Service; was elected to the American Physiological Society and the Society for Experimental Biology and Medicine. He also received research grants from the U. S. Public Health Service and the Minnesota Heart Association.

SIDNEY E. GROSSBERG served as consultant, National Institutes of Neurological Diseases and Blindness; and received research grants from the U. S. Public Health Service and the National Academy of Sciences.

RUTH E. GROUT served as member, Subcommittee on Classification of Nursing Homes, Governor's Committee on Aging; and consultant, Regional Office for Southeast Asia, World Health Organization. She was also awarded the Elizabeth Severence Prentiss National Award in Health Education, and was elected to the Governing Council, American Public Health Association.

GLENN GULLICKSON, JR. was elected member, Board of Directors, Conference of Rehabilitation Centers and Facilities; and assistant to the Executive Director, American Congress of Physical Medicine and Rehabilitation, August, 1959.

PAUL S. HAGEN served as member, Anti-anemia Preparations Advisory Board, National Formulary; and member, Medical Advisory Council, Minnesota Chapter, National Hemophilia Foundation.

FRANZ HALBERG served as member, Nomenclature Committee, International Society for the Study of Biological Rhythms, 1958-60; and member, Committee on Medicine, American Association on Mental Deficiency, 1960.

WENDELL H. HALL served as member, Allergy and Immunology Study Section, National Institutes of Health, 1958-60; secretary-treasurer, Minnesota Society of Internal Medicine, 1958-60; member, Executive Committee, Minneapolis Society of Internal Medicine, 1958-60; and received research grants from the Eli Lilly and Co. and the U. S. Public Health Service, 1958-60.

WILLIAM T. HALL served as delegate member, St. Paul area Public Health Council; member, Minnesota Welfare Conference; and member, Minnesota Association of Social Workers.

JAMES A. HAMILTON served as a consultant, World Health Organization, Regional Office for Europe, 1958-60; consultant, Medical Service Corps Division, Office of the Surgeon General, United States Army, 1958-60; chairman, National Book Award Committee, American College of Hospital Administrators, 1958-60; trustee, 1958-60, and chairman, Headmaster Selection Committee, Tilton School, 1958; chairman, State of Minnesota Advisory Board: Hospital Superintendent Registration Law, 1958-60; and received a U. S. Public Health Service research grant.

RUTH HARRINGTON served as member, National Advisory Committee on the Disaster Nursing Project, National League for Nursing, 1958-60.

ISABEL HARRIS served as president, Minnesota Board of Nursing, 1958-60; and chairman, Technical Committee, American Nurses' Foundation, 1958-60.

DONALD W. HASTINGS served as member, Steering Committee, Advisory Panel on Medical Sciences, Office of Director of Defense, 1958-60; member, Program Committee, American Psychiatric Association, 1959-60; and member, Hennepin County Mental Health Board, 1958-60.

STARKE R. HATHAWAY served as member, Mayor's Youth Commission, 1959-60; member, National Institute of Mental Health Study Section for Mental Health Projects, 1959-60; was awarded Distinguished Scientific Contribution Award, Division of Clinical Psychology, American Psychological Association, September, 1959; was member, Medical Policy Committee, State Department of Public Welfare, 1958-59; and was awarded a U. S. Public Health Service research grant.

LERNER B. HINSHAW was recipient of the Lederle Medical Faculty Award. He was elected to the American Physiological Society and the Society for Experimental Biology and Medicine. He also received research grants from the U. S. Public Health Service, the Minnesota Heart Association, and the Life Insurance Medical Research Fund.

RONALD W. HINZ received a Predoctoral Fellowship, National Cancer Institute, National Institutes of Health.

HERBERT M. HIRSCH was reappointed Scholar, Cancer Research, American Cancer Society, July, 1959; was elected Fellow, American Academy of Microbiology, February, 1960; and received a U. S. Public Health Service research grant.

CLAUDE R. HITCHCOCK served as president, Minneapolis General Hospital Research Foundation, Inc.; member, Cancer Committee, associate editor, *Minnesota Medicine*, Journal of the Minnesota State Medical Association; member, Professional Education Committee, Minnesota Division, American Cancer Society; member, Special Legacy Committee, Hennepin County Cancer Society; and was awarded research grants from the National Institutes of Health and the Minnesota Division of the American Cancer Society.

FREDERICK W. HOFFBAUER served as consultant, Office of the Surgeon General, U. S. Army Medical Research and Development Command; chief of medicine, the Medical Service of the Minneapolis General Hospital; member, Advisory Committee on Metabolism, Subcommittee on Liver, Office of the Surgeon General. He also received a research grant from the Office of the Surgeon General.

ROBERT B. HOWARD served as chairman, Medical Education Committee, member, Teaching Hospital Section, Association of American Medical Colleges; and member, Senior Fellowship Committee, U. S. Public Health Service.

REYNOLD A. JENSEN was awarded a fellowship by the U. S. Public Health Service, 1959-60.

JOHN A. JOHNSON served as president, Minnesota State Board of Examiners in the Basic Sciences; and received research grants from the Minnesota Heart Association, and the U. S. Public Health Service.

FLORENCE JULIAN served as member, National Steering Committee, Department of Hospital Nursing, National League for Nursing, 1958-60; chairman, Committee on Professional Nursing Practice, Minnesota Nurses Association, 1959-60; member, Advisory Committee, Vocational School, Pre-Nursing and Practical Nursing, Minneapolis, Minnesota, 1958-60; and member, Minnesota Joint Commission for Improvement of Patient Care, 1959-60.

B. J. KENNEDY received research grants from the American Cancer Society, the Sabra Martin Hamilton Foundation, the U. S. Public Health Service, and the Upjohn Company.

ANCEL KEYS served as member, Council, Association for Study of Arteriosclerosis; co-chairman, Research Committee, International Society of Cardiology; member, Research Committee, member, Central Committee, American Heart Association; member, Editorial Boards, *American Journal of Physiology*, *Journal of Applied Physiology*, *Geriatrics*, *Metabolism*, *Circulation Research*, and *Journal of Chronic Diseases*; consultant, World Health Organization, Food and Agricultural Organization, Education, Science and Culture Organization, United Nations. He was also awarded research grants from the U. S. Public Health Service, the Lincoln National Life Insurance Company, the Upjohn Company, and the Minnesota Heart Association.

A. DOUGLAS KINCAID, JR. served as member, Glen Lake Sanatorium Study Committee, Community Welfare Council of Hennepin County, 1958-59.

JOSEPH T. KING received a Minnesota Heart Association research grant.

MILAND E. KNAPP served as medical consultant, Aid to the Disabled, Division of Public Welfare, State of Minnesota; and member, Section on Physical Medicine and Rehabilitation, American Medical Association.

MICHAEL KOSIAK received the R. D. Grant Company Award at the Third International Congress of Physical Medicine.

FREDERIC J. KOTTKE served as member, Medical Advisory Committee, Office of Vocational Rehabilitation, 1960; president, Physical Therapy Examining Committee, Minnesota State Board of Medical Examiners, 1958-60; member, Minnesota Governor's Advisory Committee on Vocational Rehabilitation, 1958-60; member, Minnesota Conference on Aging and delegate to White House Conference on Aging, 1960-61; president-elect, 1958-59, president, 1959-60, American Congress of Physical Medicine and Rehabilitation; member, Executive Committee, chairman, Program Committee, Third International Congress of Physical Medicine, 1960; member, Medical Committee, American Rehabilitation Foundation; member, Committee on Rehabilitation, Minnesota State Medical Association, 1958-60; member, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation; member, Executive Director's Caretaker Committee, Kenny Foundation, 1960; and member, Editorial Board, *Archives of Physical Medicine and Rehabilitation*, 1958-60. He also received research grants from the National Foundation, the Office of Vocational Rehabilitation, the Kenny Foundation, and Sandoz Pharmaceuticals.

CARL D. KOUTSKY served as secretary-treasurer, Minnesota Psychiatric Association, 1959-60; and board member and chairman of Professional Advisory Committee, Minnesota Mental Health Association, 1958-60.

JOHN D. KRAFCHUK served as president, Louisiana Dermatological Society; dermatology editor, *Minnesota Medicine*; consulting editor, *Journal of Allergy*; fellow, Royal Society of Tropical Medicine, England; and member, Association of Royal Society of Medicine, England.

WILLIAM KRIVIT was elected to the Society for Pediatric Research and to Midwestern Pediatric Research Society; and received a research grant from the U. S. Public Health Service.

JAMES J. LAWTON, JR. served as member, Minnesota State Advisory Board, Four County Project for Retarded Children, 1959-60; member, Advisory Committee on Central Reception Center, Department of Corrections, Minnesota, 1960; member, Brochure on Mental Deficiency Committee, Minnesota State Medical Association, 1959-60; Diplomate, American Board of Child Psychiatry, 1960; member, Minnesota Psychiatric Society, Committee on Child Psychiatry, 1959-60; and received a research grant from the National Institute of Mental Health, 1959.

CECELIA R. LEDIGER was elected to Kappa Delta Pi, Kappa Chapter, Teachers College, Columbia University, 1959; served as member, Committee on Allied Nursing Personnel, 1958-60, chairman, subcommittee on Standards of Nursing Care in Nursing Homes, 1959-60, chairman, Nominating Committee of the National Conference Group on Psychiatric Nursing Practice, 1958-60, American Nurses Association; consultant, Veterans Administration Hospitals in St. Cloud, Minnesota, 1960, and Downey, Illinois, 1960; chairman, Committee on Allied Nursing Personnel, Minnesota State Nurses Association; consultant to the faculty in psychiatric nursing St. Catherine's College School of Nursing, St. Paul, 1959; and consultant to the faculty, Fairview Hospital of Nursing, Minneapolis, 1960.

RICHARD G. LESTER was elected to fellowship in American College of Chest Physicians, 1960; served as secretary-treasurer, Society of Pediatric Radiology, 1958-60; and member, Editorial Board, *Modern Medicine*, 1960.

HERMAN LICHSTEIN served as chairman, Committee on Education of Visually Handicapped Children, Department of Education, State of Minnesota; consultant (ad hoc), Graduate Training Grant Committee, National Institute of Allergy and Infectious Diseases; consultant, Veterans Administration Hospital, Minneapolis; member, Advisory Board, *Methods of Biochemical Analysis*; consulting editor, *Life Science Series*; and was awarded research grants by the U. S. Public Health Service, and the Office of Naval Research.

NATHAN LIFSON served as member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*; and received research grants from the U. S. Public Health Service and the Minnesota Heart Association.

C. WALTON LILLEHEI was awarded the "Order of Jose Madrid" by the Colombian Government, July, 1959, and the "Officer of the Order of Leopold"

by King Baudouin I of Belgium, January, 1960; served as associate editor, *Angiology*; associate editor, *Excerpta Medica*; and delivered the George MacDonald Albee Memorial Lecture, Massachusetts Heart Association, Worcester, Massachusetts, February 11, 1959; Adrian A. Ehler Memorial Lecture, Albany Medical Center, March 11, 1959, Albany New York; Bernard S. Oppenheimer Memorial Lecture of the New York Academy of Medicine, New York City, April 2, 1959; Hunterian Lecture, London, England, January, 1960. He also received special research grants from the Life Insurance Medical Research Fund and the U. S. Public Health Service.

RICHARD CARLTON LILLEHEI was designated a John and Mary R. Markle Scholar in the Medical Sciences by the Markle Foundation of New York City on July 1, 1960.

JOHN LOGOTHETIS received research grants from the U. S. Public Health Service.

VICTOR LORBER served as member, Board of Directors, and member, Research Allocations Committee, Minnesota Heart Association; and received research grants from the American Heart Association and the Minnesota Heart Association.

MARGERY LOW served as faculty consultant to Seoul National University.

DAVID T. LYKKEN was a fellow, Center for Advanced Study in the Behavioral Sciences, Stanford, California, 1959-60.

FRANCIS W. LYNCH served as first vice president and chairman of the Executive Committee, Minnesota Division, American Cancer Society; director (representing region 4), American Cancer Society; and president, American Academy of Dermatology and Syphilology.

LLOYD D. MACLEAN was elected to Sigma Xi, 1960; and received research grants from the U. S. Public Health Service, the Hill Family Foundation and the Minnesota Heart Association.

BENJAMIN W. MANDELSTAM served as president, Minnesota Hospital Association, 1958; chairman, Council on Professional Practice, 1960-61; chairman, Board of Trustees, Twin City Regional Hospital Council, 1960-61; chairman, Committee on Out-patient Departments, American Hospital Association, 1958-59-60; member, Minnesota Commission on Patient Care, 1958-59-60; member, Advisory Board on Hospital Superintendent Registration, 1958-59-60; member, Board of Trustees, Minnesota Hospital Service Association, 1958-59-60; and member, Board of Directors, Hennepin County Tuberculosis Association, 1958-59-60.

ANGELINE MANNICK served as president-elect, chairman, Administrative Section, and program chairman, Minnesota Dietetic Association.

CARLOS MARTINEZ served as member, International Cancer Congress, London, Summer (July), 1958; program director, U. S. Public Health Service Cancer Research Training Grant for Pathology, Physiological Chemistry, and Physiology, and received research grants from the American Cancer Society, and the U. S. Public Health Service.

JAMES H. MATTHEWS served as chief medical adviser in Korea to the Seoul National University Cooperative Project; alternate delegate to the 1959 American Society of Anesthesiologists House of Delegates; and committeeman, American Society of Anesthesiologists Committee on Consultants, 1959-60.

RICHARD B. McHUGH served as advisory consultant, Center for Personality Research, University of Minnesota; participant in the 1960 Phi Delta Kappa Research Symposium; biostatistical adviser to Research Unit, Minnesota State Prison; chairman, Nomination Committee, member, Program Committee, Twin City Chapter, American Statistical Association; member, Executive Committee, Social Science Research Center, University of Minnesota; and medical statistics consultant to the Mental Research Unit, Hastings State Hospital.

MARY ANN McINTYRE served as board member, Third District, chairman, Public Relations Committee, and member, Convention Program Committee, Minnesota Nurses Association, 1960.

CURTIS L. MEINERT received a U. S. Public Health Service Fellowship.

MAURICE W. MEYER received research grants from the National Institute of Dental Research and the U. S. Public Health Service.

JOHN A. MOE served as member, Board of Associate Editors, *Journal of Bone and Joint Surgery*; past president, Clinical Orthopedic Society; chief of staff, Gillette State Hospital for Crippled Children; and received a U. S. Public Health Service research grant.

WILBUR L. MOEN served as chairman, Physical Therapy Panel, Governor's Conference on Rehabilitation.

FRANK MORRELL served as member, Editorial Board of *Neurology*; elected fellow, American Academy of Neurology; program chairman, American EEG Society; association examiner, American Board of Psychiatry and Neurology; examiner, Board of Qualification, American EEG Society; chairman, Special Course in EEG, American Academy of Neurology; and received research grants from the U. S. Public Health Service, the Office of Vocational Rehabilitation, and the Sister Kenny Foundation.

DONN GORDON MOSSER served as member, Governor Orville Freeman's Minnesota Atomic Development Problems Committee, 1958; member, Advisory Committee on Radiological Safety, Minnesota State Board of Health, 1960; member, Public Education and Professional Education Committees, Minnesota Division of the American Cancer Society, 1958-60; member, Radiation and Radioisotopes Committee, 1958-60; delegate, House of Delegates of the Minnesota State Medical Association, 1960; member, study group for the U. S. Public Health Service to establish a co-operative nation-wide research program on radiotherapy of cancer, 1958-60; and received research grants from the American Cancer Society, Minnesota Division, and the U. S. Public Health Service.

MARTIN O. MUNDALE served as chapter co-chairman, National Convention, American Physical Therapy Association.

MARION I. MURPHY served as member, Advisory Committee, Tuberculosis Control Program, U. S. Public Health Service, Department of Health, Education, and Welfare; member, Committee on Professional Education, American Public Health Association; member, Joint Committee on Education of American Public Health Association, the Association of Schools of Public Health, and the Association of State and Territorial Health Officers; member, Board of Directors, Minneapolis Visiting Nurse Service; group leader at White House Conference on Children and Youth; chairman, WHO Conference on "Post-Basic Nursing Education for Foreign Students" at Geneva, Switzerland, October, 1959; and member, Interim Committee on Accrediting Procedures, National League for Nursing.

ERLAND NELSON served as member, Special Courses Committee, American Academy of Neurology, 1958-60.

DAVID E. OLSSON served as trustee, Blue Cross (California); vice president, 1959, and president, 1960, Santa Clara Valley Chapter, Society for Advancement of Management; director, Better Business Bureau, Santa Clara County; member, Regional Hospital Planning Survey Committee, County of Santa Clara, California; member, By-Laws and member, Guiding Principles for Hospitals Committee, Central Coast Hospital Conference; member, Nursing Advisory Committee, San Jose Unified School District; member, Nursing Advisory Committee, San Jose State College; and adviser, Red Cross Blood Program, T. B. Association, and Civilian Defense, Santa Clara County.

ARTHUR J. OSWALD served as consultant, Respiratory Function, State Department of Education.

ARTHUR R. PAGE was awarded a U. S. Public Health Service Postdoctorate Research Fellowship and a research grant from the Minnesota Heart Association.

HAROLD J. PAULUS served as president-elect, 1959, and president, 1960, Upper Midwest Section, American Industrial Hygiene Association; and received a National Institutes of Health research grant.

BETTY M. PEDERSON served as member-at-large, National Executive Committee, Institutional Nursing Service Administration Section, American Nurses

Association; and vice chairman, Institutional Nursing Service Administrative Section, Nebraska State Nurses Association.

HAROLD O. PETERSON served as member, Board of Chancellors, and member, Board of Trustees, American College of Radiology; director, Instructional Courses, American Roentgen Ray Society; and was elected a fellow in the American College of Chest Surgeons, 1959. He also delivered the Freedman Lectures, Medical School, University of Cincinnati, 1959.

HELEN J. PETERSON served as member, Planning Committee, Minnesota League for Nursing Convention, 1960; and member, Evaluation and Guidance Committee, Minnesota League for Nursing, Annual Conference, 1958-59.

BERTHA PFENNINGER served on Faculty, Basic Institute for Medical Record Librarians, American Hospital Association and the American Association of Medical Record Librarians; and program chairman, Annual Meeting of American Association of Medical Record Librarians, Minneapolis, October, 1959.

LAURENCE O. PILGERAM served as director, Arteriosclerosis Research Laboratory, St. Barnabas Hospital Research Foundation; and member, Council on Arteriosclerosis, American Heart Association. He also received research grants from the American Heart Association, the Iowa Heart Association, the Minnesota Heart Association, the National Institutes of Health, and the Life Insurance Medical Research Fund.

CARL N. PLATOU served as delegate, House of Delegates, American Hospital Association; president, Lutheran Hospital Association of America; member, Board of Trustees, member, Executive Committee, and president, Minneapolis War Memorial Blood Bank; member, Executive Committee, and co-chairman, Health and Medical Division, Community Welfare Council; member, Urban Renewal Committee, Minneapolis Chamber of Commerce; and member, Board of Trustees, Twin City Regional Hospital Council.

OLIVER G. PRATT was awarded the American Hospital Association Distinguished Service Award at San Francisco, August 31, 1960.

BETTY PRIGGIE served as chairman-elect, Career Guidance, Minnesota Dietetic Association.

WENTWORTH QUAST received a research grant from the National Institute of Mental Health, 1959.

PAUL G. QUIE received research grants from the U. S. Public Health Service and the Playtex Park Research Company.

VERNA RAUSCH served as secretary, Medical Laboratory Assistant Certification Board, Minnesota Society of Medical Technologists; member, Board of Schools of Medical Technology, American Society of Medical Technologists; member, State Hospital Laboratory Committee; and chairman, Education Committee, American Society of Medical Technologists.

RAYMOND C. READ received a U. S. Public Health Service research grant.

EILEEN REARDON served as chairman-elect, Minnesota Nutrition Council; secretary, Minnesota Dietetic Association; and president, Minnesota School Food Service Association.

SAMUEL M. REICHEL served as chairman, Typography Committee, and member, Board of Editors, *Minnesota Medicine*.

A. B. ROSENFELD served as president, Minnesota Public Health Association, 1959-60; chairman, Home Safety Conference, National Safety Council, 1959-60; chairman, School Health Committee, Association of State Maternal and Child Health and Crippled Children Directors, 1959; member, Committee on Interrelationships between Schools of Public Health and Maternal and Child Health and Crippled Children Services, 1958-60; member, Recruitment Committee, Maternal and Child Health Section, American Public Health Association, 1960; vice chairman, Health and Medical Care Division, Community Welfare Council of Hennepin County, 1959-60; secretary, 1958-59, chairman, 1960, Home Safety Section, Minnesota Safety Council; member, 1958-59, chairman, 1960, School Health Committee, Minnesota Heart Association; member, Medical Advisory Committee, United Cerebral Palsy, 1958-60; and chairman, Advisory Committee on Continuous Health Supervision of Children, Minnesota Congress of Parents and Teachers, 1959-60.

ROBERT G. BOSSING served as member, Committee on Pulmonary Diseases, Minnesota State Medical Association, 1959-60; member, Executive Committee, Minnesota Trudeau Society, 1959-60; and member, Medical and Nursing Committee, Ancker Hospital Facility Building Commission, 1960.

YOSHIO SAKO was awarded a research grant from the National Institutes of Health.

BERNARD SANDLER served as member, Governor's Advisory Committee on Physical Fitness, 1959-60; member, Committee on Aging, Health and Medical Care Section, Community Health Council of Minneapolis and Hennepin County; and member, American Congress of Physical Medicine and Rehabilitation.

WILLIAM F. SCHERER served as member, Test Committee for Bacteriology, National Board of Medical Examiners; and member, Arthropod-Borne Virus Subcommittee on Seriological Reagents, and member, Arthropod-Borne Virus Subcommittee on Information Exchange. He was also awarded the Theobald Smith Award, American Association for the Advancement of Science.

BURTRUM C. SCHIELE served as consultant, St. Cloud Veterans Hospital, St. Cloud, Minnesota, 1959-60; member, Council, Hennepin County League of Planned Parenthood, 1959-60; and member, the State Medical Advisory Committee, 1959-60.

EDWIN L. SCHMIDT served as project renewer, Biological and Medical Sciences Division, National Science Foundation; member, Editorial Board, *Applied Microbiology*; and member, Nitrogen Monograph Committee, American Society of Agronomy. He was also awarded research grants by the National Institutes of Health and the U. S. Quartermaster and Development Command.

DOROTHY SCHNEIDER served as board member, Southern Minnesota Chapter, American Society of Training Directors, 1960.

WILLIAM SCHOFIELD served as member, Committee on Research and Education, Association of American Medical Colleges, 1958-60; research consultant, Fergus Falls State Hospital, Willmar State Hospital, Minneapolis General Hospital, 1958-60; executive secretary, Minnesota Psychological Association, 1958-60; member, Committee on Current Developments, Division of Clinical Psychology, 1958-60 and member, Council of Representatives, 1959-60, American Psychological Association; and consultant, Veterans Administration Hospitals, Minneapolis, St. Cloud, Minnesota; Fort Meade, South Dakota; and Tomah, Wisconsin.

LEONARD M. SCHUMAN served as consultant, Communicable Disease Center, consultant, Air Pollution Medical Program, consultant, Division of Radiological Health, and chairman, Congenital Malformations and Background Radiation, Division of Radiological Health, U. S. Public Health Service; member, National Cancer Control Committee, National Cancer Institute; member, Advisory Committee, National Cooperative Leukemia Study; member, Planning Committee, First National Institute of Veterinary Public Health; member, Oral Polio Vaccine Advisory Committee, Minnesota State Department of Health; consultant, Dade County Oral Polio Vaccine Study, Miami, Florida; delegate to National Health Council Meeting; consultant to World Health Organization Conference on Teaching Preventive Medicine in Schools of Veterinary Medicine; member, Greater St. Paul Area Health Council; chairman, Council on Research, American College of Preventive Medicine; and chairman, Conference of Chronic Disease Training Program Directors. He also received research grants from the National Institutes of Health, Health Research, Inc., the U. S. Public Health Service, and the National Heart Institute.

SAMUEL SCHWARTZ received research grants from the Atomic Energy Commission, the U. S. Public Health Service, and the American Cancer Society.

VALATRICE SHRIMPTON served as first vice president, Minnesota Nurses Association, 1959-61; president-elect, Sigma Theta Tau, Zeta Chapter, 1960; and was appointed to Minnesota Commission on Patient Care representing the Minnesota Nurses Association, 1960.

JOHN F. SHROTS served as member, Board of Directors, Minnesota Heart Association, 1960-61; district counselor, Industrial Medical Association, 1960; chairman, "Cardiac-in-Industry" Committee, Minnesota Heart Association, 1960; member, Executive Committee, Minnesota Academy of Occupational Medicine and Surgery, 1960-61; and Chief of Public Health and Special Weapons Defense Division of Unicom II (Minneapolis Civil Defense), 1959-60.

ERNST SIMONSON served as member, Editorial Board, *American Heart Journal*; member, Committee on Electrocardiography in Epidemiological Research on Heart Disease, American Heart Association and National Institutes of Health; and member, Committee on Survey of Electrocardiograms of the Spanish Army, American Heart Association. He also received research grants from the U. S. Public Health Service, the American Heart Association, and the Minnesota Heart Association.

HELEN V. SKOWLAND served as vice president, Minnesota Chapter, American Physical Therapy Association, 1958-59; finance chairman, Thirty-Sixth Annual Conference of the American Physical Therapy Association, 1959; and recruitment chairman and member, Executive Committee, Minnesota Chapter, American Physical Therapy Association.

LYLE H. SMITH served as president and first vice president, Central States Sewage and Industrial Wastes Association, June, 1958 to June, 1960.

WESLEY W. SPINK served as member, Committee on Research, American Medical Association; member, Board of Governors, member, Board of Regents, and first vice president, American College of Physicians; second vice president and first vice president, Hennepin County Medical Society; member, Board of Directors, and president, Minnesota Medical Foundation; director, Brucellosis Research Center for the U.S.A., expert consultant on brucellosis, and member, Advisory Committee on Brucella Vaccine, World Health Organization; member, Minnesota WHO and Centennial Health Committee; member, Chemotherapy Committee, American Leprosy Foundation; member, Committee on Infections Within Hospitals, American Hospital Association; national consultant in internal medicine, Surgeon General, U. S. Air Force; member, Special Advisory Committee, National Academy of Sciences for the Secretary of Health, Education, and Welfare. He delivered the James Stafford Lecture, Maxwell Air Force Base, Alabama, January, 1959, and the James Waring Lecture, University of Colorado School of Medicine, Denver, April, 1960. He also received research grants from the Geigy Chemical Corporation, Eaton Laboratories, Chas. Pfizer Co., Lederle Laboratories, and the World Health Organization.

JAMES W. STEPHAN served as member, Council on Education and Research, American Hospital Association; and chairman, General Hospital Committee, Citizens League, Minneapolis.

RUTH STIEF served as president, Minnesota Dietetic Association, 1958-59; and member, Physical and Mental Health Committee, Governor's Advisory Council on Children and Youth, 1959-60.

W. ALBERT SULLIVAN, JR. served as member, Board of Editors, *Minnesota Medicine*; and editor, *University of Minnesota Medical Bulletin*.

R. DOROTHY SUNDBERG served as advisory editor, *Blood*; and received a National Institutes of Health research grant.

ROBERT E. SWANSON received research grants from the U. S. Public Health Service and the Minnesota Heart Association.

JEROME T. SYVERTON served as consultant, Surgeon General, National Advisory Allergy and Infectious Disease Council, and member, Advisory Panel on Viruses and Cancer, National Cancer Council and U. S. Public Health Service; chairman, Advisory Committee on Research on the Etiology of Cancer, American Cancer Society; chairman, Cell Culture Collection Coordinating Committee, National Cancer Institute; member, Executive Council, Viral and Rickettsial Registry; associate member, Commission on Enteric Infections, Armed Forces Epidemiological Board; member, Scientific Advisory Board of Consultants, Armed Forces Institute of Pathology; member, Committee on Enteroviruses, National Foundation and National Institutes of Health; member Adenovirus Committee, National Institute of Allergy and Infectious Dis-

eases; and he delivered the Charles Franklin Craig Lecture, American Society of Tropical Medicine and Hygiene, November, 1958, and the Don W. Gudakunst Lecture, School of Public Health, University of Michigan, February, 1959. He was also awarded the Commonwealth Fund Award for Creative Work, 1958, and received research grants from the U. S. Public Health Service, the National Foundation, and the American Cancer Society.

EUGENIA R. TAYLOR served as member, Council on Practical Nursing Steering Committee, National League for Nursing.

HENRY L. TAYLOR served as member, Advisory Board, Quartermaster Research and Development, and member, ad hoc Committee on the Effect of Radiation on the Aging Process in Man, National Research Council; member, Technical Committee on Heart Transfer in Biotechnology; and member, Research Committee, American Heart Association.

CARLO A. TERZUOLO was elected to the Italian Physiological Society; and received a U. S. Public Health Service research grant.

ALAN P. THAL delivered the Ciba Memorial Lecture, University of British Columbia, Vancouver.

STEWART C. THOMSON served as member, Advisory Board, Westminster Foundation of Minnesota, 1959-60; and treasurer, Minnesota Public Health Association, 1958-60.

DOROTHY TITT served as member, National Advisory Committee, Disaster Nursing Project, Office of Civil and Defense Mobilization and the National League for Nursing, 1958-60; and member, Civil Defense Committee, Minnesota Nurses Association, 1959-60.

FERNANDO TORRES served as member, Medical Advisory Committee, Minneapolis Multiple Sclerosis Society; member, Medical Advisory Board, Minnesota EEG Technician Society; member, Program Committee, American Electroencephalography Society; and was elected to life membership, National Academy of Medicine, Bogota, Colombia. He also received research grants from the U. S. Public Health Service and the American Heart Institute.

BROR S. TROEDSSON served as president, Fort Snelling Employees' Association; member, Certification Board, Association of Medical Rehabilitation Directors and Coordinators; member, Medical Advisory Board, American Association of Rehabilitation Therapists; and was awarded the Gold Medal for outstanding scientific exhibit, Minnesota State Medical Society.

ROBERT A. ULSTROM served as consultant in pediatrics, Minneapolis General Hospital, 1959-60; received research grants from the U. S. Public Health Service, Merck & Company, and Ross Laboratories, 1958-60; and was elected to membership in the Central Society for Clinical Research and the Midwest Society for Pediatric Research, 1959-60.

F. H. VAN BERGEN served as associate editor, *Survey of Anesthesiology*; director, District 15 (Minnesota and North Dakota), American Society of Anesthesiologists, American Society of Anesthesiologists Committee on Clarification of Ethics; and gave the "Geigy Lecture in Anesthesiology" at McGill University in 1960.

JOHN F. VAN PILSUM received research grants from the Minnesota Chapter, American Cancer Society, the National Science Foundation, and the U. S. Public Health Service.

RICHARD L. VARCO served as consultant, Advisory Committee on Metabolism of Trauma, U. S. Army Surgical Research Unit.

ROBERT VERNIER served as chairman, School Board, Independent District 286; was awarded a John Simon Guggenheim Fellowship, 1960; and received research grants from the Louis W. and Maud Hill Family Foundation and the Minnesota Heart Association.

MAURICE B. VISSCHER served as member, Governor's Advisory Committee on Atomic Development Problems; member, Board of Directors, Annual Reviews, Incorporated; member, Scientific Advisory Committee, Fels Research Institute on Human Development; member, Scientific Advisory Committee, Life Insurance Medical Research Fund; member, Advisory Committee on Personnel for Research, American Cancer Society; member, Citizen's Appeals

Study Committee of Hennepin County; member, Committee on Study of Manpower Needs in Basic Health Sciences, Federation of American Societies for Experimental Biology; chairman, Board of Publications Trustees, and chairman, Editorial Board, *Handbook of Physiology* series, American Physiological Society; secretary-general, International Union of Physiological Sciences; delegate, XXIst International Physiological Congress, Buenos Aires; and chairman, Traveling-Lecture Conference Team, Japan. He also received research grants from the U. S. Public Health Service and the National Heart Institute.

RUTH VON BERGEN served as consultant, Public Health Nursing Division, Minnesota State Health Department.

R. W. VON KORFF served as member, Committee on Biological Chemistry, Subcommittee on Enzymes, Division of Chemistry and Chemical Technology, National Academy of Sciences, National Research Council; and received research grants from the U. S. Public Health Service, the American Heart Association, the Minnesota Heart Association, Life Insurance Medical Research Fund, National Heart Institute of the National Institutes of Health, and the Minnesota Chapter of the Arthritis and Rheumatism Foundation.

HANNAH K. WALSETH served as chairman, Research Committee, Minnesota Nurses' Association; and archivist, Zeta Chapter, Sigma Theta Tau.

LEWIS W. WANNAMAKER served as career investigator, member, Executive Council, 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; member, Board of Editors, *Proceedings of the Society for Experimental Biology and Medicine*; member, Committee on Fellowships, Arthritis and Rheumatism Foundation; president-elect, Midwest Society for Pediatric Research; and member, Research Allocations Committee, and member, Rheumatic Fever Committee, Minnesota Heart Association. He also delivered the Minnesota Medical Foundation Lecture, Minnesota State Medical Association, 1959.

Cecil J. Watson served as president, Association of American Physicians, 1960; vice president, American Clinical and Climatological Association, 1959; chairman, Medical Fellowship Board, National Research Council, 1960; chairman, Board of Scientific Councillors, National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, 1960; alternate, Section on Internal Medicine, House of Delegates, American Medical Association, 1960; chairman, Committee of Chairmen, Committees of Metabolism and Nutrition, Research and Development Command, Surgeon General's Office, U. S. Army, 1959; and delivered the Hanau W. Loeb Lecture, St. Louis University, 1960. He received research grants from the Office of the Surgeon General, the Elnathan Gates Memorial Fund, John and Mary Briggs Fund, and Louis Weinberg Fund.

DENNIS W. WATSON served as associate editor, *American Journal of Hygiene*; member, Allergy and Immunology Training Grant Committee, Institute of Allergy and Infectious Diseases, member, Board of Scientific Counselors, Division of Biological Standards, and member, Allergy and Immunology Study Section, Division of Research Grants, National Institutes of Health; associate member, Commission on Immunization, Armed Forces Epidemiological Board; member, ad hoc Committee on Medical Microbiology, Division of Medical Sciences, National Academy of Sciences; member, Board of Directors, Minneapolis War Memorial Blood Bank; and vice president, North Central Branch, Society of American Bacteriologists. He also received research grants from the National Heart Institute and the National Institutes of Health; and delivered the F. G. Novy Lecture, University of Michigan.

LEE W. WATTENBERG received research grants from the U. S. Public Health Service and the Minnesota Division, American Cancer Society.

LEMEN J. WELLS served as member, Executive Committee, American Association of Anatomists; and was awarded a National Institutes of Health research grant.

ELIZABETH WHITNEY served as adviser, Sigma Theta Tau, 1959-60; and member of Legislative Committee, Minnesota Nurses' Association, 1960.

ALBERTA B. WILSON served as chairman, Public Health Nurses Section, and member, Board of Directors, American Nurses Association; member, Board of Directors, *American Journal of Nursing* Publishing Company; member, Board of Directors, Minnesota League for Nursing; member, Legislative Committee, and member, Civil Defense Committee, Minnesota Nurses Association; member, Advisory Committee, Pre-school Vision Screening Project, Minnesota Medical Association; and member, Advisory Committee on Practical Nursing Education, Minnesota Department of Education.

WILLIAM D. WOLKING received a research grant from the National Institute of Mental Health.

HOWARD G. WORTHEN received research grants from the Minnesota Heart Association and the U. S. Public Health Service.

School of Dentistry

WENDELL L. BARTHOLDI served as member, Cancer Society Liaison Committee, Minnesota State Dental Association, 1960.

WILLIAM F. BRAASCH served as member, House of Delegates, Minnesota State Dental Association, 1959-60.

WILLIAM BRANSTAD served as member, Special Committee on Dental Radiation, Minnesota State Dental Association, 1959.

BLANCHARD K. BRAUM was elected member and vice president, Board of Directors, Minnesota Dental Foundation, 1959-60.

HENRY B. CLARK, JR. was elected president, Local Chapter, Omicron Kappa Upsilon, 1960; president, Minnesota Society of Oral Surgeons, 1959; and served as member, Interprofessional Relations Committee, Ramsey County Medical Association, 1959.

ROBERT J. GORLIN was elected secretary, American Academy of Oral Pathology, 1959, 1960; president, Cancer Coordinators of the United States, 1960; member, Omicron Kappa Upsilon, 1959; consulting editor, "Section of Dentistry," *Steadman's Medical Dictionary*; member, Board of Directors, Minnesota Division, American Cancer Society; and member, Cancer Society Liaison Committee, Minnesota State Dental Association, 1959.

THOMAS J. EMOND was elected member, Omicron Kappa Upsilon, 1960.

ANAND P. CHAUDHRY was elected to Sigma Xi, 1959.

WILLIAM H. CRAWFORD was elected deputy regent, International College of Dentists, 1960; president, American Association of Dental Schools, 1958-59; served as member, University Relations Committee, Minnesota State Dental Association, 1958-59, 1959-60; and member, Dental Study Section, United States Public Health Service, 1954-58.

AMBERT B. HALL served as member, Committee on Awards and Honors, Dental Alumni Association, 1959; and member, University Relations Committee, Minnesota State Dental Association, 1959.

ANNA T. HAMPEL was elected secretary-treasurer, Minnesota Section, International Association of Dental Research, 1959-60; secretary-treasurer, Omicron Kappa Upsilon, 1959-60; and president, Minnesota Section, International Association of Dental Research, 1960-61.

MILES B. HIRSCHY was elected member, Omicron Kappa Upsilon, 1960.

MARMION W. HOUGLUM was elected member, Omicron Kappa Upsilon, 1960.

WALTER G. IVERSON was elected member, Omicron Kappa Upsilon, 1960; and president, Minnesota Unit, American Society of Dentistry for Children, 1959.

WALTER M. JACOBSEN was elected alternate delegate, Minnesota State Dental Association Meeting from Minneapolis District, 1959.

ROBERT J. JACOBSON was elected member, Omicron Kappa Upsilon, 1960.

IONE M. JACKSON was elected president, Eta Chapter (Minnesota), Sigma Phi Alpha, 1959-60.

JAMES R. JENSEN served as member, University Relations Committee, Minnesota State Dental Association, 1959; consultant, Operative Dentistry, Veterans Administration Hospital, Minneapolis, 1958-59; was appointed consultant, Operative Dentistry, Veterans Administration Hospital, St. Cloud, 1959-60; served as program chairman, Minnesota Academy of Restorative Dentistry, 1959-60; assistant editor, *Northwest Dentistry*, 1959-60; and chairman, Group Clinic Committee, American Association of Endodontists, 1960.

GEORGE C. LAWTHER was appointed chairman, Bank Plan, Saint Paul District Dental Society, 1960; served as a member, Executive Council, St. Paul District Dental Society, 1960; and was elected member, Midwest Society of Periodontists, 1960.

DAVEY E. LIEB was elected member, Omicron Kappa Upsilon, 1960.

HAROLD J. PANUSKA was elected member, Board of Directors, 1959-60; and member, Building Committee, 1960, Psi Omega Fraternity.

EUGENE E. PETERSEN served as chairman, Committee on Dental Radiation, Minnesota State Dental Association, 1959-60.

ERWIN M. SCHAFFER served as program chairman, American Academy of Periodontology, 1959-60; was elected president, Midwest Society of Periodontics, 1960; chairman, Research Committee, American Academy of Periodontology, 1960-61; consultant and arrangements chairman, Workshop for Teachers in Graduate and Postgraduate Education, American Academy of Periodontology, 1959-60.

LEON SINGER was elected councillor, Minnesota Section, International Association of Dental Research, 1960.

SHERWOOD R. STEADMAN served as chairman, Essay Committee, Central Section of the American Association of Orthodontists, 1960; member, Nominating Committee, 1958-59, 1959-60, and member, Constitution and By Laws Committee, St. Paul District Dental Society, 1958-59, 1959-60; member, University Relations Committee, 1958-59; and delegate, House of Delegates, Minnesota State Dental Association, 1958-59.

ANGUS R. STOESZ was elected secretary-treasurer, Minnesota Society of Dental Anesthesiology, 1960.

AINSLEY T. THORSON was elected president, Minnesota Academy of Practice Administration, 1960; associate member, American Academy of Periodontology, 1959; and member, Omicron Kappa Upsilon, 1960.

HELEN M. TUCHNER served as member, Schools' Committee, 1958-59, member, Budget and Finance Committee, 1958-59, chairman, Education Committee, 1959-60, and director, 1960, Minnesota Dental Assistants Association.

JOHN W. WAKELY was elected secretary-treasurer, Minneapolis District Dental Society Speakers Bureau, 1958-59; served as deputy Supreme Grand Master, Delta Sigma Delta Fraternity, 1959-60; member, Social Research Committee, Minneapolis District Dental Society, 1959, and chairman, 1960; chairman, Endodontic Section, Midwinter Clinic Committee, Minneapolis District Dental Society, 1959; was elected vice president, Omicron Kappa Upsilon, 1960; president, Twin City Chapter, Delta Sigma Delta, 1960; member, International Association of Dental Research, 1960; and member, Group Clinic Committee, American Association of Endodontists, 1960.

HAROLD C. WITTICH served as member, University Relations Committee, Minnesota State Dental Association, 1958-59, 1959-60; member, Advisory Committee, Minnesota Unit, American Society of Dentistry for Children, 1959-60; was elected chairman, Minnesota Unit, American College of Dentists, 1958-59; and member, Advisory Committee to the Dental Assistant and Hygienist Organizations, St. Paul District Dental Society, 1959-60.

DOUGLAS H. YOCK served as director, Minnesota State Dental Foundation, 1959-60; member, University Relations Committee, Minnesota State Dental

Association, 1959-60; member, Dental Program Committee, Minnesota Alumni Association, 1959-60; committee director, West Lake Branch, YMCA, 1959-60; and member, Alumni Relations Committee, Minnesota State Dental Association, 1959-60.

Law School

KENNETH C. DAVIS served as member, Committee on Administrative Law, Association of American Law Schools; special consultant to U. S. General Accounting Office; and was appointed delegate, 1960 Conference of British, Canadian, and American Law Teachers. He also received a Ford Foundation Study Grant.

JOHN R. ELLINGSTON served as executive secretary, Legislative Interim Commission on Juvenile Delinquency, Adult Crime, and Corrections; member, Mayor's Youth Commission, Minneapolis; and member, Advisory Committee, Reception and Diagnostic Center, Department of Corrections.

JAMES L. HETLAND served as member, Supreme Court Advisory Committee, Minnesota Supreme Court; secretary, Minnesota Judicial Council; chairman, Committee on Rules of Civil Procedure, and member, Special Committee on Proposed Civil Appeal Code, Minnesota State Bar; member, Minneapolis Charter Commission; and reporter, *Minnesota Jury Instruction Guides*.

JAMES F. HOGG served as member, Minnesota Attorney General's Committee; and received a research grant from the Walter E. Meyer Research Institute of Law.

YALE KAMISAR served as member, Committee on Selected Readings in Criminal Law, and member, Criminal Law Round Table Conference, Association of American Law Schools; and received a research grant from the Social Science Research Council.

STANLEY KINYON served as member, Uniform Commercial Code Committee, Minnesota State Bar Association; and arbitrator, State Labor Conciliator.

ROBERT J. LEVY served as member, Juvenile Court Commission, Governor's Advisory Council on Children and Youth.

WILLIAM B. LOCKHART served as member, Council, American Law Institute; chairman, Committee on Defining Sound Educational Program, and member, Panel of Law School Advisers, Association of American Law Schools; member, Legal Education Committee, member, Legal Institutes Committee, member, Special Committee on Improvement in Judicial Selection, and member, Labor Law Section Council, Minnesota State Bar Association; member, Board of Trustees, Drake University; member, Board of Directors, Citizens League of Minneapolis and Hennepin County; and arbitrator, Minnesota State Labor Conciliator.

ROBERT McCLURE served as vice president, Minnesota Branch, American Civil Liberties Union; member, Governor's Human Rights Commission; member, Committee on Academic Freedom and Tenure, Association of American Law Schools; and member, Trust Law Committee, member, Non-Profit Corporation Committee, and member, Uniform Commercial Code Committee, Minnesota State Bar Association.

ALLAN McCoid served as chairman, Advisory Committee, Minnesota State Labor Conciliator; and chairman, Torts Round Table, Association of American Law Schools.

MAYNARD E. PERSIG served as member, Advisory Committee on Criminal Rules, Federal District Courts; reporter to Minnesota Legislative Interim Commission on Adult Crime and Juvenile Delinquency; chairman, Puerto Rico Industry Committee No. 47, U. S. Department of Labor; member, Welfare Laws Advisory Committee, Minnesota Legislative Interim Committee; commissioner from Minnesota on Uniform State Laws; member to give oral examinations to applicants for assistant attorney, Civil Service Board, Minneapolis; and member, Committee on Education for Professional Responsibility, Association of American Law Schools.

College of Pharmacy

FRANK E. DIGANGI served as member, Phi Lambda Upsilon; chairman, 1958-59, and member, 1959-60, Committee on United States Pharmacopoeia and National Formulary Revision; and member, Committee on Research, 1958-59, and member, Committee on Pharmaceutical Education, 1959-60, Minnesota State Pharmaceutical Association.

EARL B. FISCHER served as member, United States Pharmacopoeia Revision Committee, 1958-60; chairman, Committee on United States Pharmacopoeia and National Formulary Revision, 1958-60; and member, Committee on Research, Minnesota State Pharmaceutical Association, 1958-59.

OLE GISVOLD served as vice chairman, Teachers of Graduate Instruction Section, 1959-60, and member, Committee on Teachers' Seminars, 1960, American Association of Colleges of Pharmacy; member, Ebert Prize Committee, American Pharmaceutical Association, 1959-60; member, Committee on United States Pharmacopoeia and National Formulary Revision, 1958-60; and member, Committee on National Pharmacy Week, Minnesota Pharmaceutical Association, 1958-59.

WILLARD J. HADLEY served as member, Minnesota City Defense Council, 1958-60; secretary, 1958-60, member, Executive Council, 1958-60, member, Committee on Research, 1959-60, member, Committee on Publicity, 1958-59, and member, Committee on Ethics, 1959-60, Minnesota State Pharmaceutical Association.

GEORGE P. HAGER served as chairman, Committee on Codification, Ciphering, and Punch-Card Technique, Division of Chemistry and Chemical Technology, 1960; member, Advisory Committee for Cardiovascular Literature Project, 1958-60, National Academy of Sciences—National Research Council; member, Medicinal Chemistry Study Section, Division of Research Grants, 1960, member of ad hoc Special Study Section, 1959, and consultant, 1960, National Advisory Heart Council, National Institutes of Health; member, Anti-Radiation Drug Program Advisory Committee, Walter Reed Army Institute of Research, 1959-60; member, Editorial Advisory Board, *Journal of the American Pharmaceutical Association*, 1959-60; member, Editorial Advisory Board, *Journal of Medicinal and Pharmaceutical Chemistry*, 1958-60; member, United States Pharmacopoeial Convention Nominating Committee, 1959-60, member, President's Advisory Board, 1958-60, chairman, Committee on Ethics, 1959-60, chairman, Research Committee, 1958-59, Minnesota State Pharmaceutical Association; member, Executive Committee, 1959-60, member, Committee on Committees, 1959-60, member, Committee on Curriculum, 1959-60, member, Committee on Resolutions, 1958-59, chairman, 1958-59, and member, 1959-60, Committee on Educational and Membership Standards, American Association of Colleges of Pharmacy; chairman, Resolutions Committee, Scientific Section, 1958-59, and member, Committee on Pharmaceutical Research, 1958-60, American Pharmaceutical Association; and member, Council, Rho Chi, 1958-60.

HERBERT JONAS was elected to membership in Rho Chi.

ROBERT H. MILLER served as consultant, Veterans Administration Hospital, Minneapolis, 1958-60; member, Ancker Hospital Building Committee, 1958-60; and member, Committee on Pharmacy Week, 1959-60, member, Committee on Pharmaceutical Education, 1958-59, and member, Committee on Research, 1958-59, Minnesota State Pharmaceutical Association.

CHARLES V. NETZ served as editor, *Proceedings of the Minnesota State Pharmaceutical Association*, 1958-60; and chairman, Professional Pharmacy Section, 1958-60, member, Committee on Membership, 1959-60, member, Committee on Public Health, 1958-60, and member, Committee on Professional Relations, 1958-59, Minnesota State Pharmaceutical Association.

TAITO O. SOINE served as member, United States Pharmacopoeia Revision Committee, 1960; chairman, Ebert Prize Committee, 1958-59, American Pharmaceutical Association; and chairman, Committee on Research, 1959-60, and member, Committee on Public Health, 1958-59, Minnesota State Pharmaceutical Association.

WALLACE F. WHITE served as member, Committee on Research, 1959-60, Minnesota State Pharmaceutical Association.

Summer Session

E. W. ZIEBARTH served as 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 in Radio and Television, St. Paul Public Schools; member, Board of Directors, Radio and Television Council; member, Committee on Education, Minneapolis Chamber of Commerce; member, Program Committee, KTCA Channel 2 Corporation; consultant in Education, Midwest Radio-Television Corporation; joint winner National Peabody Award for Distinguished Service in International Broadcasting; technical editor, *Education in Yugoslavia*; and editor and narrator, *National Defense Education Act Reports*.

Graduate School

THEODORE C. BLEGEN received the Distinguished Alumnus Citation, Augsburg College, 1959; the Litt.D., Luther College, 1960; the Distinguished Service Award, Sigma Xi, 1960; a Research and Writing Fellowship, Minnesota Historical Society, 1960; and citations from the Mayo Foundation, Foreign Students, Minnesota Alumni Association, Torskeklubben (Minneapolis), 1960. He also was honored by a national conference on Immigration and American History, 1960.

Mayo Foundation of Medical Education and Research

RICHARD W. P. ARCHER served as member, Council for Study of Arteriosclerosis, American Heart Association; program chairman, Zumbro Valley Medical Society; and received the Billings Silver Medal for exhibit, American Medical Association meeting, 1957.

M. A. ADSON received the Howard K. Gray Memorial Traveling Fellowship, 1956.

ALEXANDER ALBERT served as member, Endocrinology Study Section, National Institutes of Health, United States Public Health Service, 1958-60; member, Mental Health Medical Policy Committee, State of Minnesota; editor-in-chief, *Journal of Clinical Endocrinology and Metabolism*, 1958-60; consulting editor, *American Journal of Physiology*, 1958.

EDGAR V. ALLEN was member, House of Delegates, American Medical Association; member, Board of Directors, Committee on Fats and Atheromatosis, Committee on Smoking and Cardiovascular Diseases, American Heart Association; received the Gold Heart Award, 1959, and the Albert Lasker Award for Scientific Achievement, 1960, American Heart Association; and was associate editor, *Circulation*, 1958-60.

HOWARD A. ANDERSON served as member, Committee on Pulmonary Diseases in Children, American College of Chest Physicians, 1958; and member, Legislative Committee, Minnesota Trudeau Society.

MILTON W. ANDERSON was member, Editorial Board, *Diseases of the Chest*; and vice president, Minnesota Society for the Study of Diseases of the Heart and Circulation.

ARCHIE H. BAGGENSTOSS was member, Editorial Board, *Gastroenterology*.

ROBERT C. BAHN was awarded the Certificate of Merit for exhibit, American Medical Association, 1958.

GEORGE S. BAKER served as president and chairman, Executive Committee, American Academy of Neurological Surgery, 1960; and member, Examining Board, American Board of Neurological Surgery.

H. L. BAKER, JR. was Arthur Erskine Memorial Lecturer, Iowa State Medical Society, 1960.

EDWARD J. BALDES served as member, Scientific Program Committee, 1958-60, Scientific Exhibits Committee, 1960, Committee on Rearward Facing Seats in Transport Aircraft, 1958-59, Membership Committee, Space Medicine Branch, 1958-60, Aerospace Medical Association; member, Advisory Editorial Board, *Aerospace Medicine*, 1958-60; member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physics*, 1958-60; member, Advisory Panel on Science and Technology of the House of Representatives Committee on Science and Astronautics, 1960; alternate member, Advisory Group for Aeronautical Research and Development, North Atlantic Treaty Organization, 1960; member, Special Committee of Biophysics, University of Minnesota; and member, Board of Directors, Minnesota Academy of Science, 1958-59.

EDWARD A. BANNER was president, Minnesota Obstetrical and Gynecological Society, 1960; member, Executive Council, Continental Gynecological Society; honorary member, North Dakota Society of Obstetrics and Gynecology; and district governor (District 595) Rotary International, 1958-59.

MAURICE J. BARRY, JR. was appointed fellow of the American Psychiatric Association, 1958; served as member, Council, Minnesota Psychiatric Society; and was elected to Sigma Xi, 1958.

LLOYD G. BARTHOLOMEW served on the Membership Committee, Southern Minnesota Medical Association and as chairman of the Gifts and Awards Committee, Minnesota Society of Internists.

J. A. BASTRON was secretary-treasurer, American Association of Electromyography and Electrodiagnosis.

EDWIN D. BAYRD was vice president, Central Clinic Research Club, 1960; and was awarded the Certificate of Merit for exhibit, American Medical Association.

OLIVER H. BEAHRs was president, Minnesota Surgical Society, 1960.

KENNETH G. BERGE served as member, Council on Arteriosclerosis, American Heart Association; member, Committee on Poliomyelitis, Zumbro Valley Medical Society; and was awarded Billings Silver Medal for exhibit, American Medical Association.

JOSEPH R. BERKSON served as member, Committee on Statistical Research, American Cancer Society; member, Council, Institute of Mathematical Statistics; member, subcommittee, Committee on Growth—Committee on the Epidemiology of Cancer; member, U. S. Subcommittee on Hospital Statistics, World Health Organization; consultant, School of Aviation, Medical Department, U. S. Army Air Force; and was an honorary fellow of American Association for Advancement of Science, American Statistical Association, American Public Health Association, Royal Statistical Association, London, and International Institute of Statistics.

PHILIP E. BERNATZ delivered the Selby Lecture, Port Huron, 1960.

WILLIAM H. BICKEL served as member, Residency Review Committee for Orthopedic Surgery, American Medical Association; examiner, chairman, Residency Training Committee, and representative to the Advisory Board of Medical Specialties, American Board of Surgery; member, Committee on the Relationship of General Trauma to Orthopedic Surgery, American Orthopaedic Association; member, Committee on Trauma, Sub-committee on Automobile Safety, Advisory Council on Orthopedic Surgery, American College of Surgeons.

REGINALD G. BICKFORD served as chairman, Committee on Instrument Specifications, American Electroencephalography Society; member, Board of Certification in Electroencephalography; member, Study Group in Neurology, U. S. Public Health Service; and member, Academy of Science.

CHARLES M. BLACKBURN was secretary, Executive Committee, Breast Cancer Study Group, National Cancer Institute, 1959; and member, Editorial Board, *Yearbook of Cancer*, 1958.

JESSE L. BOLLMAN served as chairman, Research Committee, American Gastroenterological Association, 1958; member, National Institutes of Health,

Physiology Study Section, 1958; and member, State of Minnesota Advisory Committee on Mental Health, 1958.

DAVID A. BOYD, JR. continued as director, and secretary-treasurer, American Board of Psychiatry and Neurology; fellow, American Psychiatric Association; and president, Minnesota Psychiatric Society. He was also elected executive secretary-treasurer, American Board of Psychiatry and Neurology.

ROBERT O. BRANDENBURG served as chairman, Committee on Grants, member, Committee on Student Education and Student Recruitment, and member, Council on Community Service and Education, American Heart Association.

JOE R. BROWN served as chairman, Neurology Graduate Training Grant Committee, National Institute of Neurological Diseases and Blindness; member, Medical Advisory Board, National Multiple Sclerosis Society; trustee, and member, Special Courses Committee, American Academy of Neurology; member, Editorial Board, *Neurology*; member, Committee on Nervous and Mental Diseases, Minnesota State Medical Association; and member, Medical Advisory Board, Ability Building Center of Rochester.

LOUIS A. BRUNSTING served as member, Editorial Board, *Archives of Dermatology*, American Medical Association; representative of the American Medical Association, Residency Review Committee in Dermatology; representative of American Academy of Dermatology, American Board of Dermatology; honorary member, Austria, England, Germany, Jugoslav, Venezuela, and Pacific Dermatological Societies; corresponding member, Argentina, Netherlands, France, Israel, and Sweden Dermatological Societies; associate editor of *Dermatologica*; member, Advisory Editorial Board, *Journal of Investigative Dermatology*; member, Adviser Panel on Dermatology, U. S. Pharmacopoeia; and delivered the Howard Fox Memorial Lecture, New York University, Bellevue Hospital, 1959.

A. H. BULBULIAN served as associate member, Association of Medical Illustrators; and received Certificates of Merit for American Medical Association, 1959 and 1960.

HOWARD B. BURCHELL served as member, Medical Advisory Heart Council, National Institute of Health.

E. OMER BURGERT was elected to Sigma Xi, 1960.

EDMUND C. BURKE served as chairman, Committee on the Handicapped Child, Minnesota Chapter, American Academy of Pediatrics.

HUGH R. BUTT served as vice chairman, American Board of Internal Medicine; vice chairman, 1958, chairman, 1959-60, Residency Review Committee in Internal Medicine, American Medical Association; president, American Gastroenterological Association; member, Editorial Board, *Archives of Internal Medicine*; counselor, American Association for the Study of Liver Disease; member, Committee on Postgraduate Courses and Governor for State of Minnesota, American College of Physicians; member, Board of Scientific Counselors, National Cancer Institute; and he delivered the Lewis Harvie Taylor Lecture, American Therapeutic Society.

JAMES C. CAIN was member, Minnesota State Board of Medical Examiners; and member, Editorial Advisory Board, *Excerpta Medica Foundation*.

JOHN A. CALLAHAN served as member, Minnesota Board of Examiners of Basic Science.

DAVID T. CARR served as member, Subspecialty Board of Pulmonary Diseases, American Board of Internal Medicine; chairman, Committee on Respiratory Diseases, National Tuberculosis Association; chairman, Committee on Program Activities, American Trudeau Society; member, Editorial Board, *American Review of Tuberculosis and Pulmonary Diseases*; member, Radio and TV Committee, Minnesota State Medical Association; member, Board, Olmsted County Tuberculosis and Health Association; and member, Board, Olmsted County Cancer Society.

HADDON M. CARRYER was member, Audio-Visual Committee, and member, Undergraduate and Graduate Committee, American Academy of Allergy; speaker, House of Delegates, member, Council, Committee to Revise Format of the Annual Meeting, First District Congressional Committee, National Con-

gressional Legislative Committee, Minnesota State Medical Association; and member, Executive Council, Zumbro Valley County Medical Society.

DONALD S. CHILDS, JR. served as member, Board of Trustees, American Board of Radiology; member, Program Committee, Radiological Society of North America; 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 was chairman, Board of Thoracic Surgery, American Board of Surgery; member, Membership Committee, American Surgical Association; member, Advisory Council for Thoracic Surgery, American College of Surgeons; and honorary member of Royal Australasian College of Surgeons, Mexican National Academy of Surgery, Royal College of Surgeons in Ireland, the Thoracic Society (England), and the British Columbia Surgical Society.

EDWARD C. CLARK served as member, Program Committee, American Academy of Neurology.

CHARLES F. CODE served as consulting editor, *Gastroenterology* and *Annals of Allergy*; and member, Physiology Study Section, National Institutes of Health.

MARK B. COVENTRY continued as member, Committee on Constitution and By-Laws, Committee to Study the Practice of Podiatry, American Academy of Orthopedic Surgery; member, Editorial Board, *Bulletin*, American Academy of Orthopedic Surgery; member, Medical Advisory Committee, Minnesota State Medical Association; and was guest lecturer, Sixth National Congress on Orthopedics and Traumatology.

ORMOND S. CULP served as member, Executive Committee, North Central Section, and Registry of Genito-Urinary Pathology, American Urological Association; and secretary-treasurer, Clinical Society of Genito-Urinary Surgeons.

DAVID C. DAHLIN served as member, Cytology Committee, Minnesota Society of Clinical Pathology.

DAVID DALY served as chairman, Membership and Nominating Committee, member, Council, member, Committee on Standards and Education, American Electroencephalography Society; and president, 1959, and member, Council, Central Electroencephalography Society.

GEORGE D. DAVIS served as chairman, Committee on Hospitals and Professional Relations, and member, House of Delegates, Minnesota State Medical Association.

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

KENNETH D. DEVINE served as member, Professional Education Committee, Minnesota Division, American Cancer Society.

G. ROY DIESSNER served as delegate from Zumbro Valley Medical Society, and member, Medical Committee on Rehabilitation, Industrial Committee, Reference Committee, Minnesota State Medical Association; second vice president and member, Executive Committee, Southern Minnesota Medical Association; and member, Executive Committee, Zumbro Valley Medical Society.

MALCOLM B. DOCKERTY served as chairman, Tumor Registry, Central Association of Obstetricians and Gynecologists; honorary member, Nova Scotia Medical Society; consultant, Armed Forces Institute of Pathology; counselor, Minnesota Society of Clinical Pathologists; and chairman, Tumor Seminar Committee, Minnesota Society of Clinical Pathologists.

FRANCIS E. DONOGHUE served as member, Committee on Public Health Education, Minnesota State Medical Association.

BRUCE E. DOUGLASS served as member, Program Committee, Mississippi Valley Conference; and member, Committee on Tuberculosis, County Medical Society.

JAMES W. DUSHANE served as chairman, Section on Cardiology, and delegate to American Heart Association, American Academy of Pediatrics; member, Council on Rheumatic Fever and Congenital Heart Disease, American Heart Association; and chairman, Rheumatic Fever Committee, Minnesota Heart Association.

EARL C. ELKINS served as secretary, Section on Physical Medicine, member, Advisory Committee on Physical Therapy Education, Council on Medical Education and Hospitals, chairman, Residency Review Committee for Physical Medicine and Rehabilitation, American Medical Association; member, Board, 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; member, Committee on Constitution and By-Laws, American Congress of Physical Medicine and Rehabilitation; chairman, American Registry of Physical Therapists; consultant, Physical Medicine, Office of the Surgeon General, Department of the Army; member, Medical Committee on Rehabilitation, Minnesota State Medical Association; member, Medical and Scientific Committee, Minnesota Chapter, Arthritis and Rheumatism Foundation; and member, State Advisory Council on Hospital Construction.

F. HENRY ELLIS served as member, Board of Governors, American College of Surgeons.

JOHN L. EMMET served as chairman, National Committee on Graduate Instruction, American Urological Association; and member, Board of Editors, *Journal of Urology*. He was also honorary member of Sociedad Chilena de Urologia and La Sociedad Mexicana de Urologia.

JOHN B. ERICH was a member of the American Board of Plastic Surgery; and regional vice president, American Fracture Association.

DONALD J. ERICKSON served as first vice president, American Congress of Physical Medicine and Rehabilitation; area consultant, Physical Medicine and Rehabilitation, Veterans Administration; Medical Advisory Board, United Cerebral Palsy, State of Minnesota; and member, Screening Committee, Ability Building Center, Rochester.

JOHN E. FABER served as chairman, Membership Committee, and member, Board of Governors, Central Association of Obstetricians and Gynecologists; and member, Finance Committee, American College of Obstetrics and Gynecology; and member, Maternal Mortality Committee, State Maternal Welfare Committee, Minnesota Obstetrics and Gynecology Society.

ALBERT FAULCONER, JR. served as director, member, Committee on Credentials and Residency, and member, Joint Committee on Residency Accreditation with American Medical Association Council, American Board of Anesthesiology; member, representing American Board of Anesthesiology and associate secretary-treasurer, Advisory Board for Medical Specialties; member, Committee on Anesthesiology, National Research Council; civilian consultant in Anesthesiology to the Surgeon General, U. S. Army.

DEWARD O. FERRIS served as member, Committee on Applicants for District 2 of Minnesota, American College of Surgeons; first vice president, Western Surgical Association; chairman, Membership Committee, and member, Board of Directors, Minnesota Surgical Association; and member, Board of Governors, Alumni Association of the Mayo Foundation.

EUNICE V. FLOCK served as member, Award Committee, American Chemical Society.

WARD S. FOWLER served as consultant, American Medical Association Committee on Medical Rating of Physical Impairment, for Preparation of Pulmonary Guide, American Medical Association; member, Editorial Committee, *American Journal of Physiology* and *Journal of Applied Physiology*; and member, Committee on Pulmonary Disease, Minnesota State Medical Association.

ALLEN A. FRETHERM served as member, Committee on Information for Diabetics, American Diabetes Association.

CLIFFORD F. GASTINEAU served as member, Committee on Information for Diabetics, American Diabetes Association.

JOSEPH A. GIBLISCE served as counselor, Minnesota Section, International Association for Dental Research; member, Dental Study Section, National Institutes of Health; member, Dental Radiation Committee, and member, University Relations Committee, Minnesota State Dental Association; member, Grants-in-Aid Committee, Minnesota Dental Foundation; member, Nominating Committee, Alumni Association, University of Minnesota; and was elected a fellow of the American College of Dentists.

RAY W. GIFFORD, JR. served as member, Advisory Board, Section of Circulation, American Heart Association; and member, Board of Directors, Minnesota Heart Association.

C. ALLEN GOOD served as member, Board of Trustees, American Board of Radiology; member, Executive Council, and member, Program Committee, and secretary, American Roentgen Ray Society; chairman, Commission on Credentials, ex officio member, Board of Chancellors, American College of Radiology.

ROBERT J. GORES was member, 1958, and chairman, 1959, Membership Committee, and member, Planning Committee, Minnesota Society of Oral Surgeons; and member, Government Services Committee, Minnesota State Dental Association.

LAURENCE F. GREENE was consultant to the American Medical Association on Drugs; and received second prize for an exhibit at the American Urological Association meeting.

J. B. GROSS was certified with a sub-specialty in Gastroenterology.

ALBERT B. HAGEDORN received the Certificate of Merit for an exhibit at the American Medical Association Convention, 1958.

DAVID G. HANLON served as medical adviser, County Board of Selective Service.

L. E. HARRIS served as official board examiner, American Board of Pediatrics; and member, Committee on Child Health and Immunization, Minnesota State Medical Association.

VIRGINIA B. HARTRIDGE served as member, Arrangements Committee, Minnesota Society of Anesthesiologists.

ALVIN B. HAYLES served as alternate to the House of Delegates, Minnesota State Medical Association.

LEROY D. HEDGECOCK served as member, Committee on Clinical Standards in Hearing, and member, Committee on Liaison Between Otology and Audiology, Acoustical Society of America; chairman, Workshop on Rehabilitation of the Deaf, U. S. Office of Vocational Rehabilitation; chairman, Needs in Special Education and Rehabilitation, Sub-Committee of House of Representatives; consultant to Minnesota Academy of Ophthalmology and Otolaryngology, Minnesota State Medical Association; and member, Minnesota Advisory Board on Handicapped, Gifted, and Exceptional Children.

FORDYCE R. HEILMAN was elected a fellow, American Academy of Microbiology; and served as member, editorial board, *Antibiotics and Chemotherapy*, and member, editorial board, *Antibiotic Medicine and Clinical Therapy*.

E. D. HENDERSON served as chairman, Committee on Infection, and junior member, Executive Committee, American Academy of Orthopedic Surgeons; and associate editor, *Orthopedics*.

LOWELL L. HENDERSON served as member, Committee on Airborne Allergens, American Academy of Allergy.

JOHN W. HENDERSON served as vice president, Minnesota Academy of Ophthalmology and Otolaryngology; and section editor, *Survey of Ophthalmology*.

NORMAN G. HEPPER served as representative counselor from the State of Minnesota to the American Thoracic Society; and as secretary-treasurer, Minnesota Trudeau Medical Society.

EDGAR A. HINES, JR. served as member, Editorial Board, *Circulation*; and member, Executive Committee of the Council on Circulation, American Heart Association.

CORRIN H. HODGSON served as chairman, Insurance Liaison Committee, member, Tuberculosis Committee, member, Executive Committee, Minnesota State Medical Association; and chairman, Medical Advisory Committee to the Division of Vocational Rehabilitation.

J. R. HODGSON served as inspector, Radiology Departments for Board Approval, American Board of Radiology; member, Committee on Refresher Courses, Radiological Society of North America; member, Committee on Radiation Effects, American Gastroenterological Association; and member, Committee on Radiologic Fees, Minnesota Radiological Association.

ROBERT W. HOLLENHORST served as head, Section of Perimetry and Neuro-ophthalmology of Home Study Courses, American Academy of Ophthalmology and Otolaryngology; chairman, Committee on Ophthalmology, and member, Committee on Industrial Health, Minnesota State Medical Association; member, Board of Directors, Preschool Medical Survey of Vision and Hearing; and acting consultant for Ophthalmology, Services for the Blind, Minnesota Department of Public Welfare.

WILLIAM H. HOLLINSHEAD delivered the E. E. Reinke Lecture, Vanderbilt University, 1960, and the Birtcher Lecture, College of Medical Evangelists, 1960.

C. B. HOLMAN served as member, Publications Committee, Neurosurgical Society of America; and member, Finance Committee, American Roentgen Ray Society.

F. M. HOWARD, JR. received a Nobel Foundation Award.

ARTHUR B. HUNT served as associate examiner, American Board of Obstetrics and Gynecology; delegate and member, Historical Committee, Minnesota State Medical Association; and president, Zumbro Valley Medical Association.

J. S. HUNTER, JR. served as member, Committee on Obstetrical Anesthesia and Analgesia for District 6, American College of Obstetricians and Gynecologists.

JOHN C. IVINS served as chief, Section IX, Trauma Committee, American College of Surgeons; member, Committee on Civilian Defense and Civilian Disaster, and member, Committee for Military and Veterans Affairs; and deputy chief, Health, Medical and Special Weapons Defense Service, State of Minnesota, Department of Civil Defense.

RAYMOND J. JACKMAN was elected an honorary member of Proctologica Latina (Italy); and served as member, House of Delegates, member, Resolutions Committee, and member, State Health Relations Committee, Minnesota State Medical Association.

JOSEPH N. JANES served as examiner (Rochester), American Board of Orthopaedic Surgery; and member, Membership Committee, Orthopaedic Research Society.

EINER W. JOHNSON, JR. served as member, Scientific Exhibits Committee, American Academy for Cerebral Palsy; and examiner, Part I, American Board of Orthopaedic Surgery.

VICTOR JOHNSON served as member, Board of Trustees, member, Advisory Council, National Fund for Medical Education; member, Board of Directors, U. S. Committee, World Medical Association; member, Board of Directors, National Society for Medical Research; member, Board of Directors, Alpha Omega Alpha; consultant to Education and Training Division, Office of the Surgeon General, U. S. Army; and received the honorary degree, Doctor of Science, from Rockford College, Rockford, Illinois.

EDWARD S. JUDD served as member, District Advisory Committee, member, State and Regional Credentials Committee, and member, Advisory Committee on Arrangements, American College of Surgeons; recorder, Central Surgical Association; and member, Program Committee, Association for Colon Surgery.

J. L. JUERGENS was elected an associate of the American College of Physicians, 1959; and served as member, Nominating Committee, American Heart Association.

ALFRED G. KARLSON served as member, Committee on Fellowships, member, Research Council, and member, Editorial Board, *American Journal of*

Veterinary Research, American Veterinary Medical Association; secretary-treasurer, Conference of Research Workers in Animal Diseases; editor, Veterinary Science Section, *Biological Abstracts*; associate member, Committee on Tuberculosis, Minnesota State Medical Association; president, Olmstead County Tuberculosis and Health Association; and member, Board of Directors, Minnesota Tuberculosis Association.

H. M. KEITH served as examiner, American Board of Pediatrics; and emeritus member, Central Society for Clinical Research.

P. J. KELLY was secretary-treasurer, Minnesota-Dakota-Manitoba Orthopedic Society; and member, Committee on Trauma, Minnesota State Medical Association.

ROGER L. J. KENNEDY served as member, Editorial Board, *Journal of Diseases of Children*, American Medical Association; and chairman, Advisory Committee on Medicare, and delegate to American Medical Association, Minnesota State Medical Association.

JAMES W. KERNOHAN served as president, Examining Board, American Board of Pathology; member, Scientific Advisory Board, Armed Forces Institute of Pathology; associate editor, *Journal of the American Association of Clinical Pathology*; and associate editor, *American Journal of Neuropathology and Experimental Neurology*.

TOM KEYS served as member, Board of Regents, National Library of Medicine.

ROBERT R. KIERLAND served as member, Advisory Committee on Dermatologic Vehicles, Council on Pharmacy and Chemistry, secretary-treasurer, member, Board of Directors, American Academy of Dermatology and Syphilology; honorary member, Association of Military Dermatology, Sociedad Venezolana de Dermatología, Venereología y Leprología, International Congress Committee, American Academy of Dermatology and Syphilology; corresponding member, Sociedade Brasileira de Dermatologia e Sifilografia, Asociação Argentina de Dermatología y Sifilología; member, Editorial Board, *Journal of Investigative Dermatology*; and special consultant, U. S. Public Health Service.

T. J. KIRBY served as consultant, Ophthalmology, Division of Indian Health, U. S. Public Health Service; and member, Council, Minnesota Academy of Ophthalmology and Otolaryngology.

J. W. KIRKLIN served as member, Central Advisory Committee of the Cardiovascular Section, Research Study Committee (Cardiovascular Surgery), and national editor, *The Heart Bulletin*, American Heart Association.

GILES A. KOELSCH served as member, Finance Committee, International Association of Allergology; member, Organization Committee, IVth International Congress of Allergology; and president-elect, member, Board of Directors, member, Board of Regents, overall chairman, Program Committee, 1960 Congress, American College of Allergists.

FRANK E. KRUSEN served as chairman, Council on Medical Physics, chairman, Committee on Rehabilitation, member, Committee on Medical Rating of Physical Impairment, American Medical Association; treasurer and ex officio member, Finance Committee, American Congress of Physical Medicine and Rehabilitation; past president, International Federation of Physical Medicine; president-elect, International Congress of Physical Medicine; member, Physical Education Committee, National Board, National Council of the YMCA; member, Committee on Rehabilitation, American Heart Association; consultant, Minnesota Rehabilitation Association; member, International Board of Editors, *Excerpta Medica*; member, Editorial Board, *International Review of Physical Medicine*; editor, *Iberia Journal*; consultant in Restorative Medicine, U. S. Public Health Service; member, the President's Committee on Employment of the Physically Handicapped; member, National Advisory Council on Vocational Rehabilitation; consultant, Minnesota Society for Crippled Children and Adults; member, Medical and Professional Advisory Committee; member, Rehabilitation and Employment Committee; chairman, Minnesota Governor's Advisory Committee on Vocational Rehabilitation; president, Minnesota State Board of Health; honorary member, Royal Society of

Medicine of England, British Association of Physical Medicine, Danish Society of Physical Medicine, Argentine Society of Physical Medicine, Argentine League Against Rheumatism, Brazilian Society of Physical Medicine, All-India Occupational Therapists' Association; president, Mayo Foundation chapter, Sigma Xi; and vice president, Staff of the Mayo Clinic. He also received the American Medical Association Distinguished Service Award, 1958.

WALTER F. KVALE received a gold medal for an exhibit, American Medical Association.

EDWARD H. LAMBERT served as past president and council member, American Association of Electromyography and Electrodiagnosis.

PAUL R. LIPSCOMB served as chairman, Membership Committee, and member, Executive Committee, Orthopaedic Research Society; chairman, Program Committee, and member Exchange Fellowship Committee, American Orthopaedic Association; member, Instructional Course Committee, American Academy of Orthopaedic Surgeons; and chairman, Program Committee, American Society for Surgery of the Hand.

EDWARD M. LITIN served as alternate delegate to American Psychiatric Association, 1959, delegate, 1960, Minnesota Psychiatric Society; Psychiatric consultant to Ability Building Center; honorary member, Milwaukee Dental Forum; and presented the Higgins-O'Donnell Memorial Lecture, West Point, New York, 1960.

GEORGE B. LOGAN continued as member, Sub-Board of Allergy, American Board of Pediatrics; member, Council on Allergy, Advisory Board for Medical Specialties; member, Section Committee on Allergy, American Academy of Pediatrics; president, Minnesota Chapter and chairman to National Organization, American Academy of Pediatrics; chairman, Health Panel, and member, Executive Committee, Governor's Advisory Council on Children and Youth; member, School Health Committee, Minnesota Chapter, American Heart Association; temporary chairman, Organization Group, Minnesota School Health Council; and chairman, Nominating Committee, Alumni Association, Mayo Foundation.

J. GRAFTON LOVE served as president, Society of Neurological Surgeons; vice president, Fourth International Neurological Congress; honorary member, Italian Society of Neurosurgery; and vice president, 1959, and president, 1960, Minnesota Society of Neurology and Psychiatry.

STANLEY A. LOVESTEDT served as vice chairman, Committee on Health Relations, American College of Dentists; member, Committee on Research, American Society of Oral Surgeons; chairman, State Hospital Dental Service Committee, and member, Cancer Society Liaison Committee, Minnesota State Dental Association; and president, Minnesota Society of Oral Surgeons.

COLLIN S. MACCARTY served as president and member, Executive Committee, Neurological Society of America.

T. G. MARTENS served as member, Armed Forces National Research Council Committee on Vision; and delegate, Minnesota State Medical Association.

GORDON M. MARTIN served as member, Advisory Committee, American Academy of Physical Medicine and Rehabilitation; member, Committee on Constitution and By-Laws, and member, Executive Council, American Congress on Physical Medicine and Rehabilitation; member, Committee on Rehabilitation and Employment, American Rheumatism Association; special consultant, Division of Chronic Diseases, U. S. Public Health Service; and member, Committee on Aging, Zumbro Valley Medical Association.

HAROLD R. MARTIN served as member, Committee on Rehabilitation, American Psychiatric Association.

H. L. MASON served as assistant editor, *Chemical Abstracts*; member, Awards Committee, Endocrine Society; member, Board of Directors, Minnesota Academy of Science; and was recipient of the Upjohn Award, Endocrine Society, 1959.

DON R. MATHIESON served as member, Council on Immunohematology, American Society of Clinical Pathologists; and member, Board of Directors, Minnesota Association of Blood Banks.

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

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 and Advisory Boards, the Elsevier Press; member, Board of Directors, Minnesota Tuberculosis and Health Association; elector, Hall of Fame; member, Board of Regents, University of Minnesota; member, Board of Trustees, Carleton College; member, Advisory Board, Gideon Seymour Memorial Lecture Series; medical adviser, Northwest Airlines; and honorary president, member, Board of Directors and Executive Committee, American Association for United Nations; and honorary member of the following: Royal College of Surgeons of England; The Medical Institution, Liverpool, England; Italian Surgical Society, Rome; Medical Association of Dominican Republic; and the Horseshoe Club of England. He was awarded an honorary Doctor of Humanities (L.H.D.) degree from Nasson College, Springvale, Maine, 1958; Certificate of Merit, Indoor Sports Club, Inc., 1958; Honor Award, American Medical Writers Association, 1958; Silver Antelope Award, Boy Scouts of America, Region 10, 1959; Certificate of Merit, Nu Sigma Nu Medical Fraternity and Foundation, 1960.

WALLACE A. MERRITT served as member, Committee of Interprofessional Relations, Minnesota State Medical Association.

ROLAND D. MILLER served as member, General Exhibit Committee, Section on Diseases of the Chest, American Medical Association; chairman, Section on Pulmonary Function Testing, American College of Chest Physicians; vice chairman, Midwest Section, American Federation for Clinical Research; and member, Editorial Board, *Minnesota Medicine*.

CLARK H. MILLIKAN served as assistant secretary, American Neurological Association; member, Field Investigations Committee, member, Committee for the Stimulation and Implementation of Research in cerebrovascular disease, and chairman, ad hoc advisory group, National Institute of Neurological Diseases and Blindness.

GEORGE D. MOLNAR served as member, Nursing Research Study Section, National Institutes of Health.

D. W. MULDER served as member, Program Committee, Southern Minnesota Medical Association.

KENNETH N. OGLE served as member, American Committee on Optics and Physiology, American Medical Association; member, Advisory Committee on Optical Aids for Sub-normal Vision, American Foundation for the Blind, Inc.; member, Research Executive Council, National Society for the Prevention of Blindness; member, Committee on Standardization of Tests for Stereoscopic Vision, Pan-American Association of Ophthalmology; member, Armed Forces Committee on Vision, and chairman, Working Group III, Visual Factors in Automobile Driving, Armed Forces Committee on Vision, National Research Council, member, Sensory Diseases Study Section, National Institutes of Health; president, Mayo Foundation Chapter, Sigma Xi; associate editor, *Journal of the Optical Society of America*; and chairman, Award Committee for the Tillyer Medal for 1959.

ARTHUR M. OLSEN served as member, Sub-Board in Pulmonary Diseases, American Board of Internal Medicine; member, Committee on Broncho-Esophagology, and member, Executive Council, and chairman, Board of Regents, American College of Chest Physicians; secretary-treasurer, American Gastroscopic Society; member, Committee on Scientific Program, and chairman, Section on Internal Medicine, Minnesota State Medical Association; and member, Budget and Finance Committee, and member, Executive Board, and chairman, Medical Advisory Committee, Minnesota Tuberculosis and Health Association. He also delivered the Alpha Omega Alpha Lecture, Marquette University.

A. L. ORVIS served as member, Advisory Committee on Radiological Health, Minnesota State Board of Health.

CHARLES A. OWEN, JR. was member, Committee on Radiation, Minnesota State Medical Association; counselor, Minnesota Society of Clinical Pathologists; and associate editor, *American Journal of Clinical Pathology*.

ROBERT L. PARKER served as member, Professional Education Committee, and chairman, Subcommittee on Pamphlets and Monographs, American Heart Association; and chairman, Executive Committee, Minnesota Society of Internal Medicine.

E. M. PARKHILL served as consultant, *Atlas of Ophthalmic Pathology*.

ROBERT T. PATRICK served as chairman, Program Committee, American Society of Anesthesiologists; member, Board of Governors, American College of Anesthesiologists; and consultant, St. Paul Area, Veterans Administration.

J. S. PEARSON served as member, Advisory Committee on Human Genetics, Minnesota Department of Health.

GUSTAVUS A. PETERS served as member, Committee on Drugs, American Academy of Allergy; and was appointed president, Board of Public Health and Welfare, Rochester, Minnesota.

HOWARD F. POLLEY served as president, National Society of Clinical Rheumatologists; member, Program Committee, Scientific Exhibits Committee, Honorary Membership Committee, Westhoff Memorial Committee, Rheumatism Review Committee, American Rheumatism Association; and editor, *Arthritis and Rheumatism Journal*.

JOSEPH H. PRATT was named honorary member of the Kansas City Gynecological Society.

JAMES T. PRIESTLEY served as member, Board of Regents, associate editor, *Surgery, Gynecology and Obstetrics*, chairman, Program Committee, member, Board of Directors, Franklin H. Martin Memorial Foundation, member, Board of Directors, Surgical Publishing Company, member, Building Committee, chairman, Committee on Nursing Education and Nursing Service, chairman, Committee to Study the Problem of the Anesthesiologists, member, Library Committee, American College of Surgeons; corresponding member, Pan American Cuban Society; affiliate, Royal Society of Medicine (England); corresponding member, Societa Cubana de Gastroenterologie; president, Society of Clinical Surgery; and president, Western Surgical Association.

LAWRENCE M. RANDALL was director, secretary-treasurer, and chairman of Residency Review Committee for Obstetrics and Gynecology, American Board of Obstetrics and Gynecology; chairman, Committee on Standards, and chairman, Representatives of the Surgical Specialties, Advisory Board for Medical Specialties; member, editorial board, *American Journal of Obstetrics and Gynecology*; member, Council, American Association of Obstetricians and Gynecologists; and corresponding member, Societe Royal Belge de Gynecologie et d'Obstetrique.

W. H. REMINE, JR. served as special consultant to the Surgeon General of the Army; and member, Program Committee, Minnesota Surgical Society. He received the Motion Picture Award of the American College of Surgeons, 1959.

HOWARD P. ROME served as secretary, Section on Nervous and Mental Diseases, American Medical Association; member, Mental Health Film Board, American Sociologic Society; chairman, Coordinating Committee of Committees of Professional Standards, American Psychiatric Association; member, Professional Committee, National Association of Mental Health; chairman, Special Medical Advisory Group to the Veterans Administration; consultant, Surgeon General, U. S. Army; consultant, Surgeon General, U. S. Navy; and member, Board of Directors, Citizens Mental Health Association.

ROBERT Q. ROYER served as member, House of Delegates, American Dental Association; examiner and member, Advisory Committee, American Board of Oral Surgery; chairman, Anesthesia Committee, member, Planning Conference on Graduate Training in Oral Surgery, and member, Constitution and By-Law Committee, American Society of Oral Surgeons; chairman, Guest

Clinics, and chairman, Program Committee, member, Board of Trustees, and member, Governor's Council on Aging, and president-elect, Minnesota State Dental Association; member, Membership Committee, and member, Nominating Committee, Minnesota Society of Oral Surgeons. He was also elected to the International College of Dentists, 1960.

C. WILBUR RUCKER served as member, Program Committee of the Section on Ophthalmology, American Medical Association; chairman of Nominating Committee, co-chairman, Committee on Written Examinations, and member, Board representing American Medical Association, and member, Committee to Write a History of the Board, American Board of Ophthalmology.

J. G. RUSHTON served as member, Committee on Nervous and Mental Diseases, Minnesota State Medical Association.

A. H. SATHER served as member, Insurance Committee, Minnesota State Dental Association.

WILLIAM G. SAUER served as member, Committee on Scientific Exhibits and Motion Pictures, World Congress of Gastroenterology; member, Committee on Committees and Procedures, American Gastroenterological Association; and member, Insurance Committee, Minnesota State Medical Association.

HERBERT W. SCHMIDT served as chairman, Executive Committee, Minnesota Trudeau Society; and member, Editorial Committee, Minnesota State Medical Association.

THOMAS H. SELDON 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 Service.

JOHN T. SHEPHERD served as member, Advisory Board, Council of Circulation, American Heart Association.

R. G. SIEKERT served as member, Editorial Board, *Minnesota Medicine*, Minnesota State Medical Association.

KINSEY M. SIMONTON served as member, Committee on Conservation of Hearing, and member, Committee on Home Study Course, American Academy of Ophthalmology and Otolaryngology; member, Committee on Conservation of Hearing, Minnesota State Medical Association; chairman, Advisory Committee to the Selective Service System; and member, Board of Directors, Advisory Committee for Pre-school Hearing Testing.

R. M. SHICK served as member, Advisory Board of the Section on Circulation, American Heart 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; chairman, Medical and Scientific Committee, Minnesota Arthritis and Rheumatism Foundation; and honorary member, Pan-American Medical Association.

L. A. SMITH delivered the Sigma Xi Lecture, Wabash College, 1959.

RANDALL G. SPRAGUE served as member, Editorial Board, *Diabetes, Journal of the American Diabetes Association*; member, Council, Endocrine Society; honorary member, Royal Society of Medicine, Endocrine Section; and received the Centennial Distinguished Merit Award, Northwestern University Medical School, September, 1959.

R. M. STEINHILBER served as member, Committee on Public Relations, Association for Research in Nervous and Mental Diseases; and secretary-treasurer, Minnesota State Psychiatric Society.

G. B. STICKLER served as guest editor, *Journal of Diseases of Children*, American Medical Association.

J. M. STICKNEY served as investigator, Acute Leukemia Group B, National Institutes of Health.

GEORGE G. STILLWELL served as chairman, Visitorial Committee, member, National Advisory Council, and member, Board of Editors, *American Journal of Clinical Pathology*, American Society of Clinical Pathologists; member, Board of Directors, and member, Educational Committee, American Medical Writers' Association; member, Board of Editors, *Minnesota Medicine*, Minnesota State Medical Association; secretary-treasurer, and chairman, Editorial Committee, and Counselor to American Society of Clinical Pathologists, Minnesota Society of Clinical Pathologists; and received a certificate from the Medical Library 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, Professional Standards and Relationships Committee, member, Resolutions Committee, Region VI, member, Committee on Area Meetings, Region VI, National Rehabilitation Association; member, Evaluation Committee, National Institute on Workshop Standards; member, Screening Committee, Ability Building Center; and president, Minnesota Rehabilitation Association.

CHARLES R. SULLIVAN served as regional representative, Scientific Assembly, American Medical Association.

W. H. J. SUMMERSKILL was awarded a research prize by the National Health Service, England; and was elected an honorary member of the French Society of Gastroenterologists.

HAROLD J. C. SWAN served as member, Circulation Section, American Physiological Society; and member, Advisory Council, Section on Circulation, American Heart Association.

JAN H. TILLISCH served as chairman, Committee on Aerospace Medicine, and member, Council on Occupational Health, American Medical Association; member, Board of Preventive Medicine, member, Medical Committee, International Air Transport Association; consultant, Surgeon General, U. S. Air Force; member, Board of Visitors, Air University; member, Advisory Medical Council, Civil Air Surgeon Association; member, Judicial Committee, Minnesota State Medical Association; and delivered the William Rhinehart Schick Lecture, Lackland Air Force Base, February, 1960.

GERSHOM J. THOMPSON served as vice president, president of United States Section, regent for Minnesota, chairman, Section on Urology, International College of Surgeons; and president, Mayo Clinic Staff.

ALFRED UHLEIN served as member, Graduate Training Committee, American College of Surgeons; member, Organization Committee, Minnesota Association for Mental Health; and delivered the MacArthur postgraduate lecture, Edinburgh, Scotland, June, 1959.

JOHN H. ULRICH served as member, Microbiology Study Section, National Institutes of Health.

LAURENTIUS O. UNDERDAHL served as member, Council, Committee on Professional Education, Committee on Scientific Programs, Committee on Constitution and By-Laws, and Subcommittee on Diabetes Abstracts Coverage, American Diabetes Association; member, Diabetes Committee, Minnesota State Medical Association; and member, Program Committee, Minnesota Society of Internal Medicine.

MARTIN VAN HERIK served as member, Publications Committee, American Radium 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 on Basic Medical Education for the Armed Forces, Office of the Surgeon General.

WALTMAN WALTERS served as chief editor, *Archives of Surgery*, American Medical Association; member, Advisory Panel on Medical Sciences, Department of Defense; corresponding member, Sociedad Venezolana de Gastroenterologia and Deutsche Gesellschaft für Chirurgie. He also received the Commendation Award, University of Chiba, Japan, 1959, and delivered the Frank H. Lahey Lecture, Boston, 1959.

EMMERSON WARD served as member, Membership Committee, Program Committee, and Committee on Evaluation of New Therapeutic Agents, American Rheumatism Association.

CHARLES H. WATKINS served as member, Advisory Board, National Foundation for Leukemia; and assistant editor, *Cancer Yearbook*.

JOHN M. WAUGH served as representative of Council on Medical Education and Hospitals of the American Medical Association on the Conference Committee on Graduate Training in Surgery; governor representing the American Surgical Association, and chairman, Nominating Committee of Board of Governors, American College of Surgeons; president-elect, Association of Surgery of the Colon; member, Editorial Board, *Cancer and Surgical Abstracts*; member, Editorial Board, *Journal of Diseases of the Colon and Rectum*; elder, First Presbyterian Church, Rochester; member, Board of Directors, Tarkio College, Missouri; and director, Board of YMCA (Rochester).

LYLE A. WEED served as chairman, Council on Microbiology, American Society of Clinical Pathologists; member, Editorial Board, *American Journal of Clinical Pathology*; and consultant, Pathology, U. S. Army Biological Warfare Laboratories.

W. E. WELLMAN served as delegate, House of Delegates, and member, Committee on Medical Services, Minnesota State Medical Association; and president, Zumbro Valley Medical Society.

JACK P. WHISNANT was elected fellow, American Academy of Neurology.

H. L. WILLIAMS served as associate editor, *Transactions of the Academy*, and member, Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology; president, American Otological Society, Inc.; member, Council of the Triological Society, American Laryngological, Rhinological, and Otological Society, Inc.; member, Editorial Board, *Annals of Allergy*; and member, Symposium on Clinical Evaluation of Drug Therapy in Neurologic and Sensory Disorders.

MARVIN M. D. WILLIAMS served as guest examiner in Physics, member, Physics Credentials Committee, and member, Radiation Therapy Accreditation Committee, American Board of Radiology; member, Council, Associated Midwest Universities, Argonne National Laboratories; member, Subcommittee 6, National Committee on Radiation Protection; member, Commission on Education, and chairman, Committee on Education of Radiation Physicists, American College of Radiology.

ROBERT B. WILSON served as president-elect, American Society for the Study of Sterility.

RICHARD K. WINKELMANN served as member, Program Committee, Society for Investigative Dermatology.

ERIC E. WOLLAEGER served as member, Sub-specialty Board in Gastroenterology, American Board of Internal Medicine; and member, Education Committee, American Gastroenterologic Association.

EARL H. WOOD served as president, Basic Science Section, and member, Program Committee, Circulation Section, American Heart Association; member, Editorial Board, *American Journal of Physiology* and *Journal of Applied Physiology*; member, Editorial Board, *Circulation*; member, Armed Forces Committee on Bioastronautics; and member, Research Allocations Committee, Minnesota Heart Association.

LEWIS B. WOOLNER served as consultant, International Academy of Gynecological Cytology; and member, Membership Committee, American Goiter Association.

H. H. YOUNG served as chairman and member of Executive Committee, Orthopedic Section, American Medical Association; regional representative, Accreditation of Orthopedic Residency Training, Advisory Board for Medical Specialties; assistant editor, *Yearbook of Orthopedic Surgery*; and member, Board of Trustees, *Journal of Bone and Joint Surgery*.

P. E. ZOLLMAN served as secretary, Southeastern Minnesota Veterinary Medical Society; and vice president, Izaak Walton League (Rochester).

School of Business Administration

DOUGLAS C. BASIL received a research grant from the Small Business Administration, 1959-60.

FRANCIS M. BODDY served as Smith-Mundt Lecturer, University of the Republic, Montevideo, Uruguay, 1959; administrator, Ford Foundation Summer Research Seminar for Liberal Arts Teachers of Economics, 1958; member, National Council, 1958-60, and chairman of the Committee on Common Standards, 1958-60, American Association of University Professors; member, Social Science Research Council Committee on Analysis of Economic Census Data, 1958-60; Minnesota representative, Universities-National Bureau Committee, National Bureau of Economic Research, 1958-60; chairman, Committee on Academic Freedom, American Economic Association, 1959-60; and member, Governor's Advisory Committee, Department of Business Development.

MARTIN BRONFENBRENNER served as member, Committee on Surveys of Foreign Economic Literature, and member, Committee on Translation of Japanese Economic Literature, American Economic Association, 1959-60.

OSWALD H. BROWNEE served as editor, *American Economic Review*, 1958-60; member, Committee on the Conference on Price Behavior, National Bureau of Economic Research, 1959-60; and was awarded a research grant, Commission on Money and Credit.

JOHN BUTTRICK was awarded a Ford Faculty Research Fellowship, 1960; and served as member, Screening Committee for Fellowships, National Science Foundation, 1959-60.

JOHN S. CHIPMAN served as associate editor of *Econometrica*, 1958-60.

GEORGE W. ENGLAND received an Office of Vocational Rehabilitation Grant, 1959-60; and served as senior adviser, Labor Management Relations Committee, Junior Chamber of Commerce, 1959-60; and member, 1959-60, chairman, 1960, Membership Committee, Minnesota Chapter, American Association of University Professors.

RICHARD K. GAUMNITZ served as consultant, Business Management Division, European Productivity Agency, Paris, France, 1959-60.

PETER GREGORY was awarded a Ford Foundation Fellowship.

DONALD V. HARPER received a research grant from the Small Business Administration, 1959-60.

DELBERT C. HASTINGS received a research grant from the Small Business Administration, 1959-60.

WALTER W. HELLER served as member, Board of Directors, member, Committee on Fiscal Research, and member, Program Committee for the Conference on Public Finance, National Bureau of Economic Research, 1958-60; chairman, National Screening Committee, Ford Foundation Faculty Research Program, 1958-59; member, 1958-60, chairman, 1959-60, Advisory Committee on State and Local Government Statistics, U. S. Census Bureau; member, Advisory Committee on Faculty Fellowships, Brookings Institution, 1959-60; member, Committee on Urban Economics, Resources for the Future, 1959-60; member, Committee on Urban Finance, Institute of Public Administration, New York City, 1959-60; first vice president, Midwest Economic Association, 1959; member, Research Committee, 1958-60, and chairman, Recruiting Committee, 1958-59, Upper Midwest Economic Survey; tax adviser to the Governor of Minnesota, 1958-59, and to the State Tax Department, 1958-60; and economic consultant, National Education Association, 1958-60, and United Nations, 1958-59.

HERBERT G. HENEMAN, JR. served as member, Executive Committee, Educational Project in Occupational Health Nursing, Minnesota League for Nursing, 1959; adviser, Turkish Student Association of America, Minnesota Chapter, 1959; editor, Industrial Relations Research Association research volume, 1959; member, Citizen's Sponsoring Committee for the Dinner and Reception, Third Governor's Conference on Civil Rights, 1960; member, Special Research Committee, National Industrial Recreation Association, 1960; member, 1958-60, secretary-treasurer, 1958-59, president, 1959-60, Minnesota Chapter, American Association of University Professors; chairman, St. Paul Fair Employment Practices Commission, 1958-60; chairman, Advisory Council, Minnesota De-

partment of Employment Security, 1958-60; member, Industrial Relations Executive Council, 1958-60; and consulting member, Visiting Nurse Service, Minneapolis, 1958-60.

ROBERT J. HOLLOWAY received a research grant from the Small Business Administration, 1959-60; and served as president, Minnesota Chapter, and chairman, National Teachers' Committee, American Marketing Association, 1959-60.

LEONID HURWICZ served as associate editor, *International Economic Review*, 1958-59.

JOHN H. KAREKEN served as consultant, Commission on Money and Credit, 1959-60.

RICHARD L. KOZELKA served as chairman, Standards Committee, American Association of Collegiate Schools of Business, 1958-60; member, Committee on Review of Findings of Carnegie Corporation Report on Study of Collegiate Business Education, 1958-59; chairman, Evaluation Committee for Upper Midwest Industrial Exhibit, Minnesota Department of Business Development, 1958-59; chairman, Economic Roundtable, 1958-60; member, Research Committee, Upper Midwest Economic Survey, 1958-60; and president-elect, Midwest Economic Association, 1960.

THOMAS A. MAHONEY received a fellowship, Institute of Basic Mathematics for Application to Business, 1959-60; and served as president, Twin Cities Chapter, Society for Advancement of Management, 1958-59.

E. SCOTT MAYNES served as panel member, Consumer Behavior Specialists, Council of Economic Advisers, June, 1958; consultant to National Council of Applied Economic Research, New Delhi, India, and director, Delhi Saving Survey, 1958-59; member, Subcommittee on Family Economic Models, Social Science Research Council, 1959-60; and member, National Educational Advisory Committee, Consumers' Union, 1959-60.

MARC L. NERLOVE served as member, Program Committee, Econometric Society, 1958-59; member, Social Science Research Council and American Farm Economic Association Committees on Agricultural Economics Research, 1958-60; associate editor, *Journal of the American Statistical Association*, 1959-60; received an American Farm Economic Association publication award, 1959-60; and consultant to Rand Corporation, Johns Hopkins Operations Research Office, and Commission on Money and Credit, 1959-60.

JOHN NETER served as consultant, Statistical Research Division, U. S. Bureau of the Census, Washington, D.C., 1959-60.

EDMUND A. NIGHTINGALE served as vice president, Minnesota Ninth District Chapter, Association of Interstate Commerce Commission Practitioners, 1959-60; regional vice president, 1960-62; vice president and chairman, Educational and Research Committee, Associated Traffic Clubs of America, 1959-61; chairman, Legislative Committee, Northwest Shippers Advisory Board, 1960; and member, Transportation Research Advisory Committee, U. S. Department of Agriculture, 1960.

I. RICHARD SAVAGE served as associate editor, *Journal of the American Statistical Association*, 1958-60; vice president, Twin Cities Chapter, American Statistical Association, 1959-60; member, Council of the Institute of Mathematical Statistics, 1958-60; and director, Nonparametric Summer Statistical Institute of the Institute of Mathematical Statistics, National Science Foundation, 1959.

JACOB SCHMOOKLER served as member, Planning Committee for Conference on Invention, Social Science Research Council Committee on Economic Growth and Universities-National Bureau Committee, National Bureau of Economic Research, 1959-60.

GEORGE SELTZER received a research grant from the Small Business Administration, 1959-60; and served as a member, Defense Organizations Advisory Committee, Economic Stabilization Agency, Washington, D.C., 1959-60.

HARLAN M. SMITH served as chairman, Executive Council, Minneapolis United World Federalists, 1959-60.

HAROLD W. STEVENSON received a research grant from the Small Business Administration, 1959-60.

JOHN G. TURNBULL served as member, Advisory Council on Unemployment Insurance, 1958-59; member, Governor's Advisory Council on Unemployment Insurance, 1959-60; co-chairman, Governor's Workmen's Compensation Study Committee, 1959-60; and consultant, Minneapolis Federal Reserve Bank, 1959-60.

WALTER H. UPHOFF received a Fulbright Research Grant; and served as member, Advisory Committee, Mental Health Project, National Institute of Labor Education; and member, Education Committee, Minnesota Association for Mental Health.

ALBERT K. WICKESBERG received a research grant from the Small Business Administration, 1959-60.

General College

FRED AMRAM served as adviser to the Austria group, Minnesota Student Project for Amity among Nations.

WAYNE J. ANDERSON served as president, Minnesota Council on Family Life; consultant to Strengthening Family Life Committee, Governor's Advisory Council for Children and Youth; and state representative, National Council on Family Life.

AUSTIN B. CASWELL, JR. served as director, Minneapolis Honeywell Choral Society.

EVELYN D. CRISP served as a member, library committee, Citizens' League for Greater Minneapolis.

JEROME E. GATES was recipient of a Tozer Foundation Grant, 1958; and was designer of the Scandinavian Heritage Show, Swedish American Institute.

LESLIE A. KING received a Winona State College Citation Award, May, 1960.

KAYE K. MATSUMOTO served as adviser to Japan group, Minnesota Student Project for Amity among Nations.

HORACE T. MORSE served as member, Executive Committee, and member, National Committee on General Education, Association for Higher Education; member, Advisory Committee on Junior Colleges, State Board of Education; resource leader, Institute for College and University Administration, University of Michigan, June, 1960; member, Board of Directors, Minnesota Council for the Gifted, Inc.; member, Advisory Board, Viking Council, Boy Scouts of America; and consultant to Committee on Faculty Development, American Society for Engineering Education.

LEON REISMAN served as treasurer, Twin City Film Society.

LOUIS T. SAFER won first prize award for two drawings at the Minnesota State Fair art show; had one-man shows at the Fine Arts Gallery, the Unitarian Society Gallery, the Golden Valley Country Club, the Campus Theatre Gallery, the St. Paul Gallery; served as judge, regional color photography competition, Minnesota Color Photography Association.

CLARA SEECAMP served as accompanist, Metropolitan Opera Audition; and as guest accompanist, Lutheran Brotherhood Chorus Concerts.

THOMAS F. STOVALL served as chairman, public affairs department, Greater Minneapolis Council of Churches.

ALFRED L. VAUGHAN served as consultant to the Council for the Advancement of Small Colleges.

University of Minnesota, Duluth

DONALD H. ANDREWS served as dean, Duluth Chapter, American Guild of Organists, 1958-60.

ROBERT E. BEVERLEY served as member, Board of Directors, Duluth Symphony Association, 1958-60.

ELEANOR P. BONTE served as member, Board of Directors, Duluth Mental Hygiene Clinic; and member, Board of Directors, Northwood, Children's Home Society of Duluth.

MARY E. BOWNE served as member, American Education Research Association, 1960; and was elected fellow, American Association for Health, Physical Education and Recreation Association, 1960.

WILLIAM G. BOYCE served as member, Sub-committee on Museum-School Co-operation, National Art Education Association, 1959-60.

THOMAS W. CHAMBERLIN served as member, Duluth Public Library Board, 1958-60; member, Board of Directors, Duluth Chamber of Commerce, 1959-60; member, Board of Directors, Duluth Welfare Council, 1959-60; member, Board of Directors, St. Louis County TB and Health Association, 1958-60; and member, Board of Directors, St. Luke's Hospital School of Nursing, 1958-60.

HUAI C. CHIANG served as member and vice president, Board of Directors, Duluth International Institute, 1958-60; member and vice president, Duluth Wesley Foundation, 1958-60; chairman, Publication Subcommittee, North Central Regional Entomology Technical Committee, 1958-60; was elected fellow, Royal Entomological Society of London, 1959; and received National Science Foundation research grants.

GLENN M. CHRISTENSEN was awarded a U. S. Public Health Service research grant, 1960; and was elected to Sigma Xi, 1958.

EDWARD J. COWLES received grants from the National Science Foundation, 1959-60; and served as a director, Lake Superior Section, National Science Foundation, 1959-60.

RAYMOND W. DARLAND served as vice president, Board of Directors, Marshall H. and Nellie Alworth Memorial Fund, 1958-60; member, Board of Directors, Duluth Rotary Club; member, Board of Directors, Duluth Symphony Association, 1958-60; member, Duluth Advisory Council on Naval Affairs for Commandant Ninth Naval District, 1958-60; and received the Alumni Achievement Award, Fort Hays Kansas State College, 1960.

EMMETT DAVIDSON served as member, Duluth Charter Commission, 1958-60; chairman, Education Committee, Duluth Lions Club, 1959-60; president, Minnesota Intercollegiate Athletic Committee, 1959-60.

JOHN A. DETTMANN served as adviser, School of Public Administration, Seoul National University, Korea, 1959-60.

ANNA MARIE DUVAL served as secretary-treasurer, Lake Superior Section, American Chemical Society, 1958-59; and board member, Northeast Minnesota League for Nursing, 1958-60.

HENRY J. EHLERS served as member, Minnesota State Executive Committee, American Civil Liberties Union, 1958-59; and member, Minnesota State Intercollegiate Committee on Faculty-Administration Relationships, American Association of University Professors, 1960.

PACY FRIEDMAN served as member, Executive Committee, Minnesota Speech and Hearing Association, 1959-60.

PHILIP L. FRIEST served as member, Board of Directors, 1958-60, treasurer, 1958-60, Duluth Blood Assurance Association; statistical supervisor, Vacation-Travel Survey, Iron Range Resources and Rehabilitation Commission, State of Minnesota, and the Minnesota Arrowhead Association, 1958; and was elected to Pi Gamma Mu, 1960.

ORAZIO FUMAGALLI served as judge, 25th annual Wisconsin Art Salon, University of Wisconsin, 1959.

GERALD A. GLADSTEIN served as member, State Advisory Committee on Counseling, Guidance, and Testing, Minnesota State Board of Education, 1958-59.

F. JAMES GLICK served as chairman, Lake Superior Section, American Chemical Society, 1959-60.

JOHN C. GREEN received a Geological Society of America research grant, 1959-60.

RUTH E. GREEN served as chairman, Committee to Develop Minnesota Curriculum Guide for Kindergarten, 1959-60.

MOY FOOK GUM served as member, Duluth Roundtable, 1959-60.

JOHN E. HAFSTROM served as member, Executive Committee, Minnesota Section, Mathematical Association of America, 1959-60; and chairman, committee to publish directory of mathematics departments in North Dakota, South Dakota, Manitoba, and Minnesota, 1959-60.

FRANK HANSEN served as American vice president, Lake Superior and North Shore Association, 1959-60.

HOWARD G. HANSON served as member on evaluation panel, National Science Foundation, 1958.

HAROLD L. HAYES served as president, North Central Theater Association, 1958-59; was elected to Pi Kappa Delta, 1959; and served as stage director, Duluth Symphony Association's production of *Carmen*, 1960.

ROBERT L. HELLER served as director, American Geological Institute Teaching Resources Development Program, 1959-60; member, Course Content Improvement Study Committee and member, Evaluation Panel for Secondary School Teacher Fellowships, National Science Foundation, 1959-60; and editor, *Geology and Related Sciences Sourcebook for Elementary and Secondary School Science Courses*, American Geological Institute, 1959-60.

LEVERETT P. HOAG served as director, Minnesota Council for Geographic Education, 1959-60.

PERSHING B. HOFSLUND served as member, Executive Board, Arrowhead Zoological Society, 1958-60; president, Duluth Bird Club, 1958-60; member, Executive Council, the Wilson Ornithological Society; member, Research Committee, Wilson Ornithological Society, 1959-60; and was elected to the American Ornithologists Union, 1959-60.

JULIAN B. HOSHAL served as president, Minnesota chapter, and state chairman, Sigma Delta Chi; and member, Duluth United Nations Day committee, 1959-60.

ROBERT W. HOUSE served as member, Editorial Board, *Journal of Research in Music Education*; and member, Editorial Board, *Music Educators Journal*, 1958-60; chairman, Music Education Research Council, 1958-60; principal cellist, Duluth Symphony, 1958-60; and was elected to Phi Delta Kappa, 1960.

DONALD H. JACKSON served as arbitrator, Port Authority of Duluth, 1959.

WILLARD E. JOHNSTON served as state membership chairman, Student Personnel Association Teacher Education, 1959-60.

MARK M. KEITH received a National Science Foundation grant, 1958.

J. DORRANCE KISER received 2nd prize, oil painting, Minnesota State Fair, 1959.

ARTHUR J. LARSEN served as member, special committee, St. Louis County Historical Society, Great Lakes-St. Lawrence Seaway Development, 1959-60.

HENRY LEPP served as secretary, Institute on Lake Superior Geology.

MAUDE L. LINDQUIST served as member, Executive Board, Minnesota State Historical Society, 1958-60; member, St. Louis County Historical Society Board, 1959-60.

HUBERT M. LOY served as chairman, Research Committee, Tri-State Association for Student Teaching, 1958-59; and member, Subcommittee on Student Teaching, and member, Subcommittee on Student Teaching Reimbursement, State Advisory Committee on Teacher Education, 1958-60.

WILLIAM R. MCEWEN served as consultant to chief scientist, Holloman Air Force Base, New Mexico, 1960.

CECIL H. MEYERS served as member, Curriculum and Methods Committee, National Council for Small Business Management Development, 1959-60.

FRANCIS B. MOORE served as councilor, Minnesota Academy of Science, 1958-60; chairman, Lake Superior Section, American Chemical Society, 1960; and chairman, Organizational Meeting, Minnesota College Chemistry Teachers, 1960.

DANIEL H. MUNDT served as secretary, Labor Law Section, Minnesota State Bar Association, 1960; and member, Duluth Board of Education, 1960.

JAMES C. NICHOL received a research grant from the U. S. Public Health Service, 1958-60; and served as supervisor, Duluth Campus National Science Foundation Undergraduate Research Participation Program, 1960.

THERON O. ODLAUG served as special consultant to the Lake Superior Study, U. S. Public Health Service, 1958-60; vice chairman, Duluth Blood Donors, Inc., 1958-60; and vice chairman, Arrowhead Zoological Society, 1958-60.

DONALD E. OLSON served as special consultant on surplus property, Office of Education of the Department of Health, Education, and Welfare, 1960.

NORMAN H. OLSON served as member, National Rating Board for Small College Basketball Teams, United Press-International, 1959-60.

ROBERT OWENS served as director of research, Minnesota Legislature's Interim Study Commission on Water Pollution, 1958-59.

RUTH PALMER served as member, Minnesota State Planning Committee for Home Economics Education, 1958-60; and delegate, American Dietetics Association, 1958-60.

MOSES PASSER served as member, National Council on Chemical Education; counselor, Lake Superior Section, American Chemical Society, 1959-60; represented the University at the San Diego Conference of the National Commission on Teacher Education and Professional Standards, National Education Association, 1960; director, Duluth section, Chemical Products from Peat Project, Iron Range Resources and Rehabilitation Commission, 1958 and 1960; and received a National Science Foundation research grant, 1960.

A. NEIL PEARSON served as member, Citizens Committee on Housing and Redevelopment Section, Duluth City Plan, 1959.

ROBERT F. PIERCE served as chairman, Consultative Committee on Hearing, State Department of Education, Division of Special Education, 1958-60.

VALWORTH R. PLUMB served as member, vice president, and presiding officer, State Advisory Committee on Teacher Education, 1960; associate editor, *Journal of Educational Research*, 1958-60; contributing editor, *Journal of Experimental Education*; and program chairman, Minnesota Association for Supervision and Curriculum Development, 1960.

RUTH H. RICHARDS served as member, Governor's Advisory Physical Fitness Council, 1958-60; member, Research Committee, Minnesota Association of Health, Physical Education, Recreation and Safety, 1959-60; secretary, Kappa chapter, Delta Kappa Gamma, 1958-60; and member, 1958-60, and chairman, 1960, Scholarship Committee, Selective Recruitment Committee.

REYBURN R. ROULSTON was elected to Pi Gamma Mu, 1959.

RUDOLPH I. SCHAUER served as judge, Minnesota Arrowhead Art Exhibition, 1959.

ROBERT G. SCHMIDT served as member, Board of Directors, Duluth Chapter, National Conference of Christians and Jews, 1959-60; and was elected to Pi Gamma Mu, 1959.

RICHARD O. SIELAFF served as research consultant, Seaway Port Authority of Duluth, 1958-60; and research director, Minnesota Vacation-Travel Survey, Range Resources and Rehabilitation Commission, 1958-60.

EDWIN O. SIGGELKOW served as member, Professional Standards and Training Committee, and member, Conference Program Committee, Association of College Unions, 1959-60.

FRANCES E. SKINNER served as member, and secretary, Fair Employment Practices Commission, City of Duluth, 1958-60.

DOROTHY D. SMITH served as president, Arrowhead Reading Council, Minnesota Reading Association and International Reading Association, 1958-60; and chairman, Grants-in-Aid Committee, American Federation of Soroptimist Clubs, Inc., 1958-60.

JAMES E. SMITH served as concertmaster, Duluth Symphony Orchestra, 1960.

HOLGER R. STUB served as member, Plus-65 Committee, Duluth Community Chest, 1959-60.

JEANE-MARIE SWORD served as vice president, Delta Kappa Gamma, Superior, Wisconsin, 1958-60.

ARMAS W. TAMMINEN served as vice president, program chairman, and president, Northern Minnesota Psychological Association, 1958-60; and consultant, Duluth Citizens' Mental Health Committee, 1958-60.

ALBERT TEZLA served as member, Governor of Minnesota's Committee on Refugee Rehabilitation, 1958; and received a Fulbright research grant, 1959-60.

WILLIAM P. VAN EVERA served as chairman, Real Property Section, 1959-60, and vice chairman, Tax Council, Minnesota State Bar Association, 1960; member, Board of Directors, Duluth Chamber of Commerce, 1958-60; trustee, Duluth Symphony Association, 1958-60; and chairman, Duluth Fair Employment Practices Commission, 1958-60.

JOHN E. VERRILL served as president, Tri-State Regional Association for Student Teaching, 1960.

GORDON O. VOSS served as chairman, Town Board, Midway Township, County of St. Louis, Minnesota, 1958-60; and vice president, National Association of Teacher Educators, American Vocational Association, 1959-60.

PHILIP G. WALTHER served as secretary, Northern Minnesota Psychological Association, 1960.

FRED T. WITZIG served as consultant, Minnesota Legislature's Interim Study Commission on Water Pollution, 1958-59.

JULIUS F. WOLFF, JR. served as chairman, St. Louis County Forestry Advisory Committee, 1958-60; member, City of Duluth Wage Arbitration Board, 1958-59; member, Board of Governors, St. Louis County Historical Society, 1958-60; member, Duluth Round Table, Conference of Christians and Jews, 1958-60; member, Board of Directors, Friends of the Wilderness Society, 1958-60; subdistrict commissioner for Boy Scouts of America, 1958-59; and consultant, Office of Supervisor, Superior National Forest, and Minnesota Department of Conservation, St. Paul, 1958-60.

CHESTER W. WOOD served as general chairman, City of Duluth American Red Cross Fund and Membership Campaign, 1959; member, Survey Team on Higher Education in Korea, U. S. International Cooperation Administration and Korean Ministry of Education, 1960.

General Extension Division

HAROLD J. ALFORD served as member, Board of Directors, 1958-60, and chairman, 1958-60, Evening Colleges and Class Extension, National University Extension Association; member, Board of Directors, St. Paul Gallery and School of Art; member, Board of Directors, Minneapolis Association for Retarded Children; member, Board of Directors, School for Social Development; and member, St. Paul Council of Adult Education.

FREDERICK E. BERGER served as treasurer, National Council on Family Relations, 1958-60; member, Board of Directors, and member, Program Planning Committee, Pillsbury Citizens Service, Inc.; chairman, Liberal Arts Planning Committee, National University Extension Association, 1959-60; and honorary member, Midwest Fleet Safety Supervisors Association, Inc., 1958-60.

AUDREY JUNE BOOTH served as president, Minnesota Branch, National League of American Pen Women.

ROBERT BOYLE served as member, Radio Program Committee, National Association of Educational Broadcasters; and consultant in Radio-Television, Farmer's Union Grain Terminal Association.

ELIZABETH L. CLESS served as chairman, Arts Committee, National University Extension Association; and received a Carnegie grant.

MERRILL K. CRAGUN served as member, Speakers Committee, Statehood Centennial; and member, Audio-Visual Committee, National University Extension Association, 1959-60.

ALBERT M. FULTON served as chairman, Committee on Terminal Education, National University Extension Association, 1958-60; and member, Committee on Curriculum Development, Technical Institute Division, American Society for Engineering Education, 1958-60.

BETTY GIRLING served as member, Board of Governors, National Anti-Defamation League; honorary adviser, Alpha Epsilon Rho; and received a Minnesota Citizens Committee on Public Education award for the film, "The Last Continent—Antarctica," 1959.

SHELDON GOLDSTEIN served as member, Board of Directors, Friends of Educational Television.

F. LLOYD HANSEN served as chairman, Correspondence Study Division, member, Board of Directors, member, Armed Forces Committee, member, Administrative Committee, Correspondence Study Division, National University Extension Association; and co-editor, *Guide to Correspondence Study*.

LEAH M. LEWIS served as member, Educational Committee, Minnesota Chapter, American Institutes of Decorators.

HUNTINGTON MILLER served as chairman, Committee on Reports, National University Extension Association, 1958-60; member, joint National University Extension Association and Association of University Evening Colleges Committee on Uniform Studies, 1959-60; and received a research grant from Center for Study of Liberal Education for Adults.

JULIUS M. NOLTE served as member, Section on Instructional and Comparative Law, American Bar Association, 1958; member, Executive Committee, Council on General Extension, Association of Land-Grant Colleges and Universities, 1958; secretary-treasurer, National University Extension Association, 1958; member, Minnesota Statehood Centennial Commission, 1958; and member, Committee on Legal Continuation Education, Minnesota State Bar Association and Hennepin County Bar Association.

BURTON PAULU served as president, National Association of Educational Broadcasters; member, Joint Council on Educational Television; and received a Ford Foundation research grant.

ORVILLE C. PETERSON served as member, Executive Committee, American Municipal Association; member, Governor's Advisory Committee on Youth; member, State Aeronautics Advisory Committee; member, Advisory Council, State Civil Defense; member, Committee on Public Employment, Citizens League; member, Motor Vehicle and Traffic Law Regulation, Safety Council Committee; member, Governor's Committee on Physical Fitness; member, Board of Friends, St. Paul Public Library; and member, Governor's Committee on Highways Task Force.

WILLIAM C. ROGERS served as co-chairman, Committee on World Affairs, and member, Community Development Division, National University Extension Association; director, Program of Information on World Affairs, Minneapolis Star; and member, Electives Committee, and chairman, International Liaison Committee, Adult Education Association.

ELEANOR M. SALISBURY served as editor, *National University Extension Spectator*, and member, Committee on Publications and Public Information, National University Extension Association; member, Governor's Citizen-Legislator Reapportionment Committee; and chairman, Nominating Committee, Minnesota League of Women Voters.

LOTTE SEIDLER served as chairman, Radio-TV Publicity, UNICEF Halloween Project, Minnesota; member, Radio-TV Publicity Committee, Minnesota Association for International Refugee Year; and member, Speaker Committee.

ROBERT C. SLATER served as chairman, Committee of Examiners, Mortuary Science Unit, Minnesota State Board of Health; member, American Board of Funeral Service Education; member, Board of Directors, East Minneapolis Recreational Association; honorary life member, Minnesota Funeral Directors Association; and chairman, Committee of Management, University YMCA.

BARBARA J. STUHLER served as member, Board of Directors, member, Foreign Policy, Public Relations, and Convention Planning Committees, and chairman, Foreign Policy Committee, U. S. League of Women Voters; secre-

tary, Governor's Advisory Committee on Atomic Development Program; member, Board of Review, Fair Employment Practices Commission, State of Minnesota; member, Board of Directors, Council House for Senior Citizens; and member, Committee on World Affairs, National University Extension Association.

ARNOLD WALKER served as member, Music Committee, National Association of Colored People; and member, Minneapolis Amphitheater Committee.

ERWIN C. WELKE served as member, Board of Directors, and president, Educational Film Library Association.

THE WORK OF THE UNIVERSITY

Colleges and Schools

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

Continued increase in enrollment and teaching responsibilities brought real problems to the College of Science, Literature, and the Arts during the 1958-60 biennium. Enrollment and credit hours taught in the College during the past four years were:

	Enrollment	Student credit hours taught
1956-57	6,847	332,534
1957-58	6,749	345,542
1958-59	7,082	369,611
1959-60	7,218	381,251

During the biennium the College's teaching load increased by over 10 per cent during a period when the size of staff was increased by the equivalent of 34 full-time persons chiefly at the teaching assistant rank. From 412 full-time positions in 1957-58, the equivalent full-time staff increased to 437 in 1958-59, and 446 in 1959-60. This represented an increase for the three-year period of 34 persons, or 8 per cent, during a period when the teaching load increased over 10 per cent. Most of the increase in staff was the result of replacing major retirements or resignations with lower ranking staff in larger numbers.

From 1952 to 1958, the number of credit hours per instructor increased from 259 to 297. During the 1958-60 biennium, the increase was to 303. Already high in terms of effective student-faculty ratios, the further increase has brought several problems to the College. Already many courses are offered in alternate years or even less frequently. Many popular courses have had to be closed when enrollment reached the maximum considered educationally desirable by the faculty. Courses requiring small groups, discussion sections, and laboratory sections have filled, and students have had to elect courses with less rigid limits. In many courses, class size has risen to a point where individual attention through reports, written work, term papers, and student-faculty conferences, etc., has had to be reduced.

During the past year, the College made an extensive study of the actual number of faculty and staff needed to handle the increased enrollments predicted for the years ahead. This survey reviewed course by course the number of additional students that could be handled without increase of staff. For the College as a whole, 82 per cent of the courses in the College could absorb the increased enrollment predicted for 1960 without increase in faculty. For those courses which require added staff, however, the additional faculty needed numbers 70. This number might be reduced slightly if the College's enrollment increase is smaller than predicted several years ago when the basic data for the study were assembled.

However, unless substantial additions to the faculty can be made, the College will face a lowering of its educational effectiveness. The College's enrollment, and more important, its teaching load, has increased substantially more than that of the University as a whole.

Curricular Changes—The biennium 1958-60 saw steady growth and improvement of the Arts College curriculum, rather than marked change. As is characteristic of SLA, continuous revision and change is going on in all of the departments and many improvements were made.

In 1959-60, the College joined with the College of Education in a program whereby students may earn both the B.A. and the B.S. degrees in slightly over 4 years of college. The program involves joint registration, careful planning of Upper Division programs, and an extra quarter or two. Formerly, 5 or

6 quarters beyond the B.A. degree were required for students who wished to earn the teaching certificate for secondary education.

The biennium also marked the establishment of honors sections in several more SLA courses. The Mathematics, History, Sociology, Biology, and Political Science departments developed such sections in addition to previously established sections in Psychology and English.

The year 1959-60 was the first operation of the interdepartmental courses under the new plan designed to draw all appropriate departments more effectively into teaching these courses. The courses in Personal Orientation were returned to the administration of the Department of Psychology, and the courses in Family Life were assigned to the Minnesota Family Study Center. In the Humanities and Social Science courses, program groups involving the appropriate departments of the College were organized to further co-operation with and participation in the interdisciplinary courses. During the year, a new series of Humanities courses was organized for and taught to students in the College of Agriculture, Forestry, and Home Economics.

First experiments in teaching SLA courses for credit by television were carried on in Sociology (Sociology 3, "Social Problems"), and German 1 (Beginning German).

Substantial changes in course offerings were made in several departments: History, Art, Journalism, and Anthropology. Notable new offerings included a new general biology course, a new course in Asian history, a new program in comparative literature, a new opera workshop course, and a new sequence in Oriental humanities.

Student Personnel Program and Student Relations—The year 1959-60 brought a major change in the College's student personnel program. In filling the gap caused by the resignation of Assistant Dean R. M. Cooper, Assistant Dean Roger B. Page was named Assistant Dean for the Lower Division, combining with these new duties his former responsibilities for Lower Division student personnel.

During the biennium, a thorough faculty review was made of the entire College student personnel program. This review and report, carried on by the Committee on Student Personnel under the chairmanship of Professor D. K. Smith, represented a most thorough-going review of the College's program, with many recommendations for improvement. It is satisfying that in general the Committee found the College's program to be strong and healthy.

Continued productive relations were maintained by the College with the SLA Student Intermediary Board. The Board carried out a survey of scholastic conduct and presented to the faculty recommendations designed to minimize cheating in college examinations. Many suggestions for improvement of instruction, for course improvement, and for other changes in the College were made. The joint meetings of the Student Intermediary Board and the College's Advisory Committee helped promote better understanding on the part of both groups.

For the third year, a group of the most outstanding freshmen met regularly with Dean Page and Dean McDiarmid. This program seeks to stimulate these able young people to higher achievement and to give them a better understanding of the rich intellectual and scholarly resources of the University.

Research—While teaching occupies the larger share of the College faculty's time and energy, research activities continue to be on the increase. Devoted as it is to the combination of research and teaching, the true characteristic of a university, the College can take pride in the volume and quality of its research interests and activities.

In a college with humanistic and creative subject interests, no statistical figures can measure the wide range of research activities. Books, articles, works of art, musical compositions—these are the scholarly results of a distinguished faculty in many subjects, and the College's productivity in these ways has been notable.

Actual sponsored or supported research projects are one measure of scholarly activity, and in this respect the College has shown substantial growth during the past biennium. Since 1956-57, the first year after the De-

partment of Physics was transferred to the Institute of Technology, there has been steady growth in research grants and the amount of money for them:

	Number of grants	Total amount
1956-57	48	\$223,407
1957-58	61	265,957
1958-59	75	408,393

The Minnesota Center for the Philosophy of Science continued its scholarly studies in philosophical concepts of science. To the two published volumes representing the Center's work, a third is about to be added.

The Minnesota Family Study Center continued its program of research and teaching with respect to family problems. Several important research projects were actively engaged in, and the Center assumed during the biennium responsibility for teaching of the Lower Division courses in Family Life, thus co-ordinating its research, graduate teaching, and public service.

Under the direction of Professor Harold Kelley, the Laboratory for Research in Social Relations continued to engage in research projects, as well as to operate a modern social science research facility in support of individual research activities of members of the social science faculties.

The new Department of Statistics, established in 1958, has provided University sponsorship for several research projects in that area, as well as serving as a co-ordinating agency for University research activities in the many fields of statistical methods.

The Professional Schools—Teaching, research, and service are the goals of the professional schools, and the biennium 1958-60 has been a busy one for all of them in each area. Two anniversaries were noted, the School of Social Work celebrating its fortieth anniversary, and the School of Journalism noting its first biennium under the directorship of Dr. Robert L. Jones who succeeded Ralph D. Casey, its first director, in 1958.

The record of teaching by the professional schools is a notable one. The School of Social Work enrolled 160 full-time and 25 part-time students, in addition to 312 students served through extension courses. During the biennium, 63 Master of Social Work degrees and 4 Ph.D.'s were conferred, bringing the School's total of graduate degrees to 663. More than 2,000 students have been admitted to and taken some resident work in social work courses.

In the Library School there was increased enrollment through the biennium. During 1958-59, 439 students took courses, and 24 M.A. degrees were granted; in 1959-60 there were 449 students, and 27 M.A. degrees.

Anticipating a future upsurging in enrollment, the schools each made careful studies and improvements in their curriculums. The School of Journalism re-examined its curriculum, strengthening particularly seminar offerings to provide additional depth in the graduate program. An undergraduate specialization in photojournalism was set up, and offerings in radio-television journalism were expanded. A new internship program for students specializing in advertising was inaugurated in collaboration with *The Minneapolis Star and Tribune*. The Library School established a new, special program for liberal arts graduates who wish to become school librarians, working the program out in co-operation with the College of Education and the Minnesota Department of Education.

All three schools report heavy demands for qualified graduates and great difficulty of meeting the needs of the professions. The Library School, for example, reported in each year 900 positions listed with barely two dozen qualified graduates available.

Research activities can barely be highlighted in a brief report. To report adequately would require a discussion of each faculty member's activities. Work such as that done in journalism law, in journalism history, in group social work, and many others are but few examples. Minnesota's School of Journalism has given national leadership through its Research Division, in media, content, and audience research, and more than a dozen studies were completed under the direction of Professor Roy Carter during the biennium. Among the research contributions of the School of Social Work were a nation-

wide curriculum study, and a study of Edward C. Lindeman and social work philosophy.

All three schools' heavy programs of service activities for their professions continued in the biennium 1958-60. The Library School held three institutes for librarians in service on *Undergraduate Library Education, Multi-County and Regional Library Service*, and *Book Arts* attended by more than 400 people. In addition to the regular institutes and short courses, the School of Journalism held its first two Ralph D. Casey Seminars, featuring Turner Catledge, Managing Editor of *The New York Times* and Phillip Graham, Publisher, *The Washington Post and Times Herald*. The School of Social Work launched during the biennium an extensive in-service training program in collaboration with social agencies in Minnesota.

The vitality of the schools is attested to both by the honors and awards to their faculties, as well as by the encouragement of students through scholarships. In the latter category, the School of Journalism announced the David Silverman Memorial Scholarship, the Twin City News Photographers' Scholarship, the WCCO-TV Scholarship in Broadcast Journalism, and the Emporium Retail Advertising Scholarship. In the Library School a new scholarship was established by the Minnesota Library Association.

Faculty awards and honors also testify to the vitality of the Schools in teaching, research, and service, only a few samples of which can be listed here. Leadership in professional education is attested to by the presidency of the Association of American Library Schools, 1959-60, the presidency of the Association for Education in Journalism, and the National Association of Social Workers.

Despite vigorous demands for service, research, and teaching far beyond their resources, the Schools maintain their vigor, their creative programs, and their devotion to the well-being of their professions. Their needs for the years ahead are for continued and increased support to enable them to offer modern professional instruction and carry on effective research in the best Minnesota tradition.

The Natural Sciences—Serious equipment needs, greatly expanded enrollments, new areas of research, and continued public service activities characterized the activities and outlined the problems of the natural science departments during the biennium. Astronomy student credit hours, for example, reached an all-time total of 7,800, and Psychology noted new enrollment pressures, particularly at the graduate level.

Busy as they were with the increased student load, the departments were able to review and strengthen their programs. Psychology made a thorough revision of its "already healthy" introductory laboratory course, and a revision of the entire undergraduate program was begun. Math unified its elementary courses into one sequence. Botany and Zoology co-operated in the establishment of a general biology course, replacing former introductory courses in each department. Improvement and revision of advanced offerings was vigorous, too—Botany "pruning" its curriculum "perhaps too much for the increasingly complex needs of our diverse clientele of graduate students." Math added a new field of concentration in differential geometry, as well as a new course in foundation of arithmetic for prospective teachers. Zoology reinstated long-deferred courses in protozoology, and introduced a new lab course in genetics. Geology established a course in X-ray crystallography. Certainly one of the most significant teaching activities was the establishment of the Academic Year Institute for High School Mathematics Teachers. Financed by the N.S.F. for 1959-60, this \$300,000 co-operative program of the math departments of SLA and IT and the College of Education provided training to 92 mathematics teachers and led to the establishment of a Master of Education in Mathematics program in the College of Education.

While the "service" activities of the science departments consist primarily of teaching and research, their receptiveness to public needs is notable. The Minnesota Geological Survey continues to be a community source of geological information in addition to its surveys and research, answering many calls and letters daily. Astronomy, too, in addition to the use of its telescope continues to supply to the public the answers to many questions. Botany's pollen count,

plant identifications, and greenhouse staff assistance to occupational therapy patients are other examples of public service.

Despite limitation of staff, supplies, and space emphasized by all the science departments, research activities expanded substantially during the biennium. Math carries on nine Government-supported research contracts, and has strengthened its research in probability, functional analysis, and logic. In Astronomy the General Proper Motion Survey was completed, and two further installments of the general catalogue were published. Botany carried on research projects, supported by the Graduate School, the Louis W. and Maud Hill Family Foundation, the N.S.F., the Office of Naval Research, the American Philosophical Society, the American Geographical Society, the Kettering Foundation, and the U. S. Public Health Service. Geology established a research laboratory and research program in pollen analysis, in mass spectrography, and participated in the geological and geophysical research in Antarctica. Strengthened research programs in Zoology included cytology, protozoology, physiology, ecology, embryology, biophysics, parasitology, and genetics. In Psychology, research activities were greatly augmented by new programs in verbal behavior, learning, and personality.

The accomplishments of the Minnesota Geological Survey have been especially numerous, many studies having been brought to completion or as near to completion as is possible before the retirement in 1961 of Dr. George Schwartz, the Director. Completed publications include surveys of Cook County, North Central Minnesota, Precambrian Minnesota, cretaceous plant microfossils, and the Biwabik Iron Formation. Field work was done on the Rochester area, iron ore deposits of Southern Minnesota, the Eastern Mesabi district, limnology of selected Minnesota lakes, plus six other projects.

Knowing that the Survey will have new leadership in 1961, Dr. Schwartz has listed some of the urgent and important survey needs of the state:

A comprehensive study of clays and shales.

The geology of the Vermillion iron bearing district.

The Paleozoic rocks of Southeastern Minnesota.

The geology of Northeastern Minnesota.

New problems of the Mesabi Range, bearing on the taconite industry.

The paleontology of the Paleozoic rocks of Southeastern Minnesota.

In commenting on only one of the above projects, Dr. Schwartz remarks, "There is a lifetime of work for an enthusiastic man and his students."

Many signal honors were received by the College's scientists, only a few examples of which may be listed; a paper to the delegates to the International Congress of Mathematicians at Edinburgh, national lecturers for the Society of Sigma Xi, representation at the International Congress of Genetics in India, membership on the Space Science board, an American Association for the Advancement of Science prize for research, and editorship of the *Journal of Applied Psychology*. Members of the science faculties lectured, spoke, or participated in meetings in Iowa, Rochester, Malaya, Bonn, Montreal, indeed in almost all four corners of the globe.

Despite good records in teaching, service, and research, the science departments note critical needs for staff, supplies and equipment, and space. Psychology reports the failure to obtain a wanted scholar because of lack of research equipment. Botany and Zoology both report near losses of staff to institutions offering better facilities for teaching and research. Mathematics has had changes in staff, and the hiring of good mathematicians becomes increasingly difficult, especially when teaching loads are heavy. The great increase in Geology enrollment, the popularity of the new biology course, plus the heavy demands of advanced and graduate teaching highlights critical needs for modern microscopes. Laboratories partly established by research grants require University support to become fully effective. Equipment used in research grants cannot substitute for equipment desperately needed for teaching.

The College's science program is healthy, but its diet is thin, and there is a serious danger of malnutrition setting in. The tempting offers and inquiries received by the faculty make it clear that the program is good but

can suffer deterioration if inadequately supported. A backlog of needs that must be met is accumulating.

The Social Sciences—Although the social science departments (Anthropology, Geography, History, Political Science, Sociology, and Statistics) have experienced sizable increases in their teaching loads, their reports stress the increased demands for advanced instruction and research. These departments which have increased so markedly in their enrollment during the '50's seem to take for granted increased teaching responsibilities, but stress especially for 1958-60 their growing needs for research and advanced instruction.

In Anthropology, faculty research included work on the Pueblo Indian authority structures, Turkish kinship, Easter Island human skeletal material, K'pelle law, and Minnesota prehistory, and contemporary American research and development programs.

In Geography, the major research has been on the geographic and economic import of highways in Minnesota under contract with the Minnesota Highway Department and the Bureau of Public Roads, in addition to individual projects by several members of the Department. A new book on the geography of Minnesota has been a notable contribution to teaching resources.

History has added new staff members in the history of the Far East, in American history, and in European history, and new research in these fields is developing.

Political Science notes completion of the research on intergovernmental relations in Minnesota and the publication of the summary volume, five major papers on research on political behavior, and research in political theory through a grant from the Rockefeller Foundation.

Other research activities of the vigorous Laboratory for Research in Social Relations included a monograph on the *Psychology of Affiliation*, *The Social Psychology of Groups*, and research and theoretical papers in Philosophy and Education.

Sociology received research awards for two young scholars in the development of new concepts and practices of delinquency control and prevention, and progress was made in the continuing study of the Minnesota Multiphasic Personality Inventory and its effectiveness in predicting social behavior. Significant publications on social theory, social statistics, and criminology were completed. The Family Study Center was active, too, in research, with a study of family consumership, co-operation with Japanese research on post-war marriage and family behavior, and the study of marriage and family problems in Puerto Rico.

Just organized in 1958, the new Department of Statistics (despite the untimely death of its first chairman, Dr. Palmer Johnson) proved its vigor in research, too, carrying on research in basic statistical methods and industrial statistics.

Research in the social sciences, the biennium attests, is in a period of almost explosive development. The College's needs almost uniformly reported are for basic staff, supplies, and space—Geography for cartographic research, Anthropology for physical anthropology, Political Science, Sociology, and Statistics for quantitative laboratory equipment and facilities—these are urgent needs. Underlying all the reports is continued dependence upon library resources for books, journals, maps, and documents.

But teaching posed its problems. Anthropology's undergraduate enrollment increased by 40 per cent; Geography reports a staff-student ratio second highest in the Big Ten; History, a student enrollment of more than 5,000; Sociology comments that staffing additional sections is becoming increasingly acute. But the departments are doing things about teaching: Geography continues to experiment with visual aids and course organization; History is reviewing areas of history that have been neglected in the past; Political Science has instituted tutorial sections for superior students; Sociology has offered the first regular SLA course for credit over television (Sociology 3.) Continuing study and review of curricular problems is indicated by the Statistics Department's survey of University statistical offerings, by the Family Study Center's assumption of responsibility for the undergraduate courses in family life and the continuing study of area studies programs in co-operation with the Center for International Relations and Area Studies.

As in other departments, the social sciences pose a difficult problem when one wishes to comment on "service" activities—so many are closely related to the instructional or the research activities of the faculty. Faculty talks, describing research activities, adult education services to community groups—all are important parts of the work of the departments. A few activities illustrative of the wide range of activities may be listed. In Anthropology, membership on the Board of Directors of the Social Science Research Council, and the presidency of the Society for the Scientific Study of Religion. In Geography, the department staff worked extensively with high school teachers on the improvement of geography instruction in the schools. Honors included the Presidency of the Association of American Geographers. Political science was represented on the faculty of the Institute of International Relations at the University of Geneva, and in a faculty seminar which visited the Soviet Union. The Family Study Center provided service to five international organizations including UNESCO, during the biennium. The Statistics Department established as one of its major activities, statistical services to faculty and students and the local community, and the International Relations Center programmed 20 individual lectures and two major conferences. Significant activities all of these—valuable services to the University, the community, and the nation; still they are but samples of the many, many more activities that could be cited.

The problems faced by the departments are similar and yet different; but the common denominators are most often needs for staff, supplies, equipment, or space. Losses of staff such as those in History, in Sociology, in Anthropology, in Political Science, and in Statistics pose problems of replacement. Increased enrollment means important needs for new staff with space and facilities to enable them to be productive. Problems are posed by expanding needs for people with advanced training—the Public Administration Center with its 84 graduate trainees including 18 Korean students from Seoul National University, the Center for International Relations and Area Studies with its demands for well-qualified area specialists—some in areas where Minnesota does not provide adequate instruction, Statistics, just beginning to provide a few qualified students (six during the biennium) in a field where the need is tremendous.

The explosive advance of social science knowledge and research means that even a large and great university must run hard to keep up. All the departments note the danger of failing to offer the rich and diversified program at Minnesota that has been characteristic of Minnesota in the past and will be essential if Minnesota is to remain great in the future.

The Humanities—Instructional problems highlighted the work of the humanities departments during 1958-60. Leading the departments in enrollment were the language departments, German reporting notable increases, making it the largest single language-teaching department in the College, French and Spanish reporting steady increasing enrollment on all levels of instruction with a marked increase in the graduate program in French. Partly, perhaps, due to the influence of Sputnik, a very marked increase was felt in Russian language courses, and a steady growth and good retention of students in Chinese and Japanese. Enrollment in English of course kept up with the increased enrollment of the College, and the departments of Art, Music, and Speech experienced enrollment pressures up to the limits of reasonable class size in many courses. Continuous study and review was also a hallmark of the College humanities departments. In Speech, the public address program of the department was simplified through elimination of four courses. Music established several courses aimed at giving wider and more adequate service, both to students of music and the general student body. In addition to inaugurating musical program activities on the St. Paul campus, the new sequence in Asian civilization offered by the department of Slavic has demonstrated its worth among general education offerings of the College.

Interdepartmental courses in the humanities, social science, natural science, and communication continued to attract students despite the unusual discussions and proposals for reorganization of the Interdisciplinary Studies programs. German experimented with an elementary German course offered

for credit on television during the winter and spring of 1960, and continued as did Romance Languages its experimentation in teaching the large freshman language courses in big sections with experienced instructors, followed by quiz sections using assistants. The new freshman English program, giving freshmen the opportunity to hear lectures from senior staff members of the Department and commingling IT with SLA students, seems to have been now established as successful, and the Department revised its program in Composition 27 and 28. Art continued to study its offerings, but because of limited staff added only courses in Japanese and Indian art.

The turnover in staff posed instructional problems in all levels in the departments. Speech carried on an intensive study and reorganization of the pathology program of the department. In Slavic, strengthening the work in Slavic linguistics, was noted, and the Department has represented the need for instruction in Arabic. Losses in German linguistics, in the advanced French program, and in Art mean serious pressures in the programs of those Departments. All the departments report the need for strength and depth to continue productive and active scholarship, as well as to meet increased enrollment pressures.

Research activities continued to be significant. Language research in teaching and teaching materials in Romance languages and Slavic, the publications of faculty members in German, French, and Spanish dealing with literary and philological topics, publications by the faculty members of the English Department, some of them creative works rather than the more usual bibliographical descriptive, all indicate continuing productivity.

The Minnesota Center for the Philosophy of Science published volume 2 of the Minnesota Studies in the Philosophy of Science dealing with concept theories and the mind-body problem. The Center continued its research on the epistemological foundations of physics, and a third and fourth volume of the studies will contain the results of this work. A significant conference on logic and methodology of science was held by the American Association for the Advancement of Science, and a meeting of that association was devoted to the history and philosophy of science.

Continuing archeological work in Greece resulted in significant discoveries that pose challenging opportunities for new discoveries and new knowledge regarding early Grecian civilization.

The cultural and service programs of the departments have been notable. The University Theater has developed a national reputation as one of the strongest educational theaters of the nation, a reputation which seems to have contributed heavily to the decision of the Guthrie Repertory Theatre to locate in Minneapolis. The present inadequacy of a physical plant for theater at Minnesota is highlighted as well as a growing awareness of the need for increasing technical assistance for the theater staff. The Theater continues, however, to be an active and vigorous community cultural resource.

The Music Department gives generously of its time in co-operating with other musical programs on the campus, as well as its own regular and special programs presented for the public by the orchestra, band, chorus, chamber singers, etc. The Department's TV presentation, "At Home with Music," continued its half-hour weekly program in which more of the varied aspects of music were demonstrated. TV, too, was utilized by the Department of German for a series of lectures on Goethe, and the Department also produced a 1959 bicentenary performance of a Schiller play.

The death of Tremaine McDowell marked the end of an epoch in our American Studies Program, and a volume honoring him shows very vividly the accomplishment of the decade, made up as it is by contributions by scholars associated with the Minnesota program. The American Studies Program's project in the study of technology in American culture came to a completion though researches still go on and will continue to give evidence of the way the project opened up an important area of social science and cultural history for interdisciplinary study.

During the biennium 1958-60, the University Gallery formulated and developed a five-point program for meeting both the in-service needs of the teaching and research programs of the Department of Art and the broader objectives of an all-university cultural resource. Its exhibition program is

planned to give all students over four years contact with original work of art from all periods and in all mediums. Its permanent collections have been strengthened and used more often in the Gallery's exhibition program. Its museum-training program has served as a valuable adjunct to the Department, and its development and organization of materials for teaching and study have been valuable to students and staff. The loan and rental collections continue to be useful to the campus, totalling over four thousand loans, not including more than five thousand for purposes of teaching and study. Significant exhibitions have been carried on, and additions to the Rood sculpture collections as well as the basic painting and print collections were made during the biennium.

These highlights of the work of the humanities departments indicate their central place in the university community. Their vitality in teaching and research will again demonstrate the need in the College for continued support and strength in order to maintain the high position of the University of Minnesota among academic institutions.

Summary—The biennium 1958-60 represented a period of essentially marking time in the College of Science, Literature, and the Arts. Faculty appointments that should have been made to strengthen the College's scholarly research and teaching were postponed in order to accommodate the rising number of students needing instruction. Research programs were delayed because of inability to provide for additional staff facilities within the limitations of an austerity budget. Senior staff members were replaced with younger staff members who, though promising, have not yet achieved the proved scholarship that is important in a major university. Faculty members already teaching substantially larger-than-desirable classes in many instances found their classes growing in size without corresponding increases in assistance or release from other activities. The work load of the faculty has grown and has now reached the point where major adjustments must be made.

Despite these pressures, there has been much study and discussion of ways of improving the program of the College. Detailed reports from the departments show imagination and creativity in reviewing research activities and looking forward to new directions to strengthen the College's scholarly resources. Continued attention has been given to improving the instructional program of the College, and substantial steps have been taken to provide enriched opportunities for superior students. Substantial planning for the decade of the '60's has been well begun and will serve as the basis for constructive steps to be taken as funds become available.

Despite the pressures of the biennium, the faculty of the College has continued its devotion to the sound education of Minnesota youth. Though the years ahead will produce even greater pressures, the faculty of the College can be depended upon for the same devotion to learning and scholarship that has characterized the College of Science, Literature, and the Arts throughout its history.—ERRETT W. MCDIARMID, *dean*

Minnesota Geological Survey

The period July 1, 1958 to June 30, 1960 for the Geological Survey was similar to past periods in the amount of funds available and the somewhat restricted activity resulting from the increased cost of services and supplies.

The most important development was the greatly increased work in the director's office resulting from the rapid expansion of suburbs in the Minneapolis-St. Paul metropolitan area and consequent problems arising from the necessity of development of additional water supplies, sewage disposal, highways, and foundations. Much of the director's time was occupied with answering questions regarding the above activities. Many of those questions involved large sums of money and require careful, dependable answers.

A special effort during the period was devoted to completion of projects under way and publication of results in view of the retirement date for the director, June 30, 1961. One report was published recently and three others are in process at University Press and funds have been requisitioned to cover so that no major project will remain uncompleted as of July 1, 1961.

Active work proceeded on the following projects: The iron ores of southern Minnesota, the Pokegama quartzite of the Mesabi district, Ordovician bryozoa, lake sediments, the Cedar Valley limestone of southern Minnesota, the interpretation of magnetic effects of the rocks of northern Minnesota, the Cretaceous sediments of Minnesota, the Sioux quartzite of the New Ulm area, revision of the glacial geology of the state, Precambrian geochronology, and detailed mapping of the Rochester area. Cuttings from water wells were classified to increase knowledge of the subsurface stratigraphy so important in water well development.

The breadth of work is illustrated by the list of publications.

Publications—The following publications were issued by the Minnesota Geological Survey during the biennium:

Frank F. Grout, Robert P. Sharp, and George M. Schwartz, *The Geology of Cook County, Minnesota*, Minnesota Geological Survey Bulletin No. 39. 1959.

Allan F. Schneider, *Pleistocene Geology of the Randall Region, Central Minnesota*, Minnesota Geological Survey Bulletin No. 40. In press.

Samuel S. Goldich, Alfred O. C. Nier, Halfdan Baadsgaard, John A. Hoffman, and Harold W. Krueger, *The Precambrian Geology and Geochronology of Minnesota*, Minnesota Geological Survey Bulletin No. 41. 1961.

Richard L. Pierce, *Lower-Upper Cretaceous Plant Microfossils from Minnesota*, Minnesota Geological Survey Bulletin No. 42. In press.

James N. Gundersen and George M. Schwartz, *The Geology of the Metamorphosed Biwabik Formation, Minnesota*, Minnesota Geological Survey Bulletin No. 43. In press.

George M. Schwartz and George A. Thiel, *Guide to the Minerals and Rocks of Minnesota*. Revised 1960. 29 pages.

George M. Schwartz and others, *Investigation of the Commercial Possibilities of Marl in Minnesota*, Office of the Commissioner of Iron Range Resources and Rehabilitation. 1959. 190 pages.

Harold F. Arneaman and Herbert E. Wright, Jr., *Petrography of Some Minnesota Tills*, *Journal of Sedimentary Petrology*, v. 29, 680-681. 1959.

George M. Schwartz, *Origin and Characteristics of the St. Peter Sandstone*, *The Minnesota Engineer*, v. 11, 12-13. 1960.

—, *Geology, North-central Counties, Northeastern Tip Counties, Minnesota*, *Gopher Historian*, v. 15, 3-6. 1960.

Robert E. Sloan, *An Occurrence of Desmograptus Cancellatus in the Stewartville Dolomite*, *Journal of Paleontology*, v. 33, 680. 1959.

F. M. Swain, J. R. Cornell, and D. L. Hansen, *Ostracoda of the Families Aparchitidae, Aechminidae, Leperditellidae, Drepanellidae, Eurychilnidae, and Punctaparchitidae from the Decorah Shale of Minnesota*, *Journal of Paleontology*, v. 35, 345-372. 1961.

Thomas N. Bayer, *The Subsurface Bedrock Stratigraphy of Northwestern Minnesota*. Master's Thesis, University of Minnesota, 1959.

Richard L. Buchheit, *The Opaque Minerals of the Basic Igneous Rocks of Minnesota*. Master's Thesis, University of Minnesota, 1959.

John K. Frye, *The Petrography of the Ancient Granites of the Minnesota Ontario Boundary Region*. Master's Thesis, University of Minnesota, 1959.

William J. Gelineau, *Pleistocene Geology of the Inver Grove and St. Paul SW Quadrangles, Minnesota*. Master's Thesis, University of Minnesota, 1959.

Olgerts L. Karklins, *Ordovician Bryozoa of the Family Rhinidictyidae from the Decorah Shale Formation in Minnesota*. Master's Thesis, University of Minnesota, 1960.

Louis A. Mattson, *Structure and Stratigraphy of the Thomson Formation Carlton-Thomson Area, Carlton County, Minnesota*. Master's Thesis, University of Minnesota, 1959.

Glenn B. Morey, *Geology of the Keweenaw Sediments near Duluth, Minnesota*. Master's Thesis, University of Minnesota, 1960.

R. K. Quaschnick, *The Geology of the Marine Quadrangle and the Falls Creek Area*. Master's Thesis, University of Minnesota, 1959.

Harlan H. Roepke, *The Nisswa Lake Marl Deposit, Crow Wing County, Minnesota*. Master's Thesis, University of Minnesota, May, 1958.

John Thomas, *Geology of the Cloquet Area, Northeastern Minnesota*. Master's Thesis, University of Minnesota, 1959.

Willis H. Thompson, Jr., *The Conodonts of the Platteville Formation of Southeastern Minnesota*. Master's Thesis, University of Minnesota, 1959.

—GEORGE M. SCHWARTZ, *director*

INSTITUTE OF TECHNOLOGY

One significant development in the Institute of Technology in the past 2 years relates to a continuation of the work of the faculty directed toward better selection of students in the Lower Division, toward the establishment

of separate criteria for admission to the Upper Division to better ensure the prospects that our students will have the preparation and innate ability to do creditable work in the Upper Division. The steps taken to strengthen the selection of students entering the Lower Division were noted in the last report. Since that time requirements for admission to the Upper Division have been formalized and they may be briefly summarized by saying that they entail satisfactory completion of the Lower Division work with a grade point average of 2.0 or better. Provision is made for petition in special cases. Students now in the Lower Division of the Institute of Technology are required to apply for admission to the Upper Division, and beginning in the fall of 1961 transfer students will be admitted to the Upper or Lower Division depending on their background at the time of transfer. The pattern set some years ago by the Institute of Technology to have all potential freshmen take a state-wide mathematics examination at the high schools has been successful. This was why the Institute welcomed and urged the University-wide acceptance of the American College Testing Program which will not only serve for internal selection requirements but will provide a basis for wide regional intercomparison.

A second continuing development in the Institute of Technology is the expansion of the special opportunities and individualized programs which are available to the able student in both the Lower and Upper Divisions.

For a student in the Lower Division these opportunities for enrichment are primarily of two types:

(a) Placement of entering students (by means of comprehensive examinations) at a more advanced level than the usual student. Last fall, for example, 57 students took comprehensive examinations in mathematics; of these, 30 merited advanced placement. (Not all of them accept the opportunity; many prefer to start as beginning students and enroll in honors sections which are available.) Some advanced placement of students occurs also in chemistry and physics, and in the freshman English courses.

(b) Honors sections. For IT courses in the Lower Division these are available in first-year and second-year mathematics, first-year and second-year physics, and first-year chemistry.

For the Upper Division student special opportunities include the following:

(a) Honors programs are available, both in the basic sciences and some of the engineering options. During the past year some of these have been expanded to a level that makes it possible for a student to take nearly all of his professional course work at an honors level. Here is an instance in which large size has advantages. It is precisely because the University has a large core of high ability students that such specialized programs are practicable within the regular educational program of the University.

(b) Another unusual opportunity for the IT student is his involvement, as an *undergraduate*, in the research program of his department. There were approximately 400 students, during the past year, associated with research programs as technical assistants. These opportunities are very valuable in stimulating student interest; in some cases, they are truly unusual. For example, a third-year physics student was among a group of nine scientists from the Institute of Technology which traveled to Africa last fall to study the sun's corona during a solar eclipse. Instances in which undergraduate students publish jointly with a senior professor do occur. Research and teaching activities of the faculty are interrelated even at the undergraduate level.

(c) Students of high ability continue professional education at the graduate level, either at the University of Minnesota or elsewhere. This graduate activity is continuing to increase. At the present time one-fifth as many students are doing graduate work in IT as there are undergraduate students enrolled.

Three most important new curriculums have been introduced in co-operation with the College of Education. These are in mathematics, chemistry, and

physics where a 4-year program in the Institute satisfies all IT requirements for a Bachelor's degree in 1 of the 3 of these basic sciences and a further year in the College of Education satisfies that school's requirements for the Master's degree in education. These curriculums will turn out teachers with not only a good pedagogical background but also a good mastery of the basic subject matter. The curriculums are so arranged that the chemists not only take chemistry to satisfy the Bachelor's degree requirement in that field but enough physics to more than cover state education requirements for a teacher in physics. The same approach applies to mathematics and physics, so that the products of any one of these curriculums are competent to teach physics, chemistry, or mathematics regardless of the field in which the student majors. This joint program was approved by the two faculties in the spring of 1960. By midsummer, five qualified students had expressed interest in these curriculums.

Another significant change relates to required courses in freshman English. Institute of Technology freshmen are now classified on the basis of their entering ability in English in exactly the same way that the English Department classifies all its other students, and they then are put into the English sequence appropriate to their ability. In the event that their skill is such that they are exempted from freshman English, the Institute of Technology requires that they should take a corresponding number of credits in English literature at the sophomore level or in some other language. Faculty committees are now discussing with the English Department the question of similarly liberalizing the English course taken by all Institute seniors.

The faculty is also working on a broadening of the humanities sequences. A serious problem here relates to credit given for ROTC, and some way must be found so that without harming the important ROTC program it is possible to eliminate the substitution of ROTC credits for humanities. Possibly one of the best solutions may be not to require the first two years of ROTC and upgrade and encourage ROTC in the Upper Division. Some of these problems are peculiar to IT. Others will likely require University-wide consideration.

One important realignment of the curriculums mentioned in the last report but about which little has been done relates to an offering in biology suitable for Institute of Technology students. With the coming together of the life and physical sciences which offers so much promise in the next few years, one might go so far as to say that most students in the Institute of Technology should take four fundamental sciences—mathematics, chemistry, physics, and biology. The biology course, however, for IT students has somewhat different objectives and boundary conditions than a biology course to meet the science requirement of Science, Literature, and the Arts students. Advantage should be taken of the background students have in chemistry, mathematics, and physics so that these disciplines are used in their biology courses. In particular, it will be necessary to provide laboratory experiments which make use of the students' interests at the academic level which they have reached.

Institute of Technology departments have succeeded in obtaining their proper share of assistance from national and private funds and foundations. Two departments have enjoyed National Defense Act fellowships. A third will be added next year. Every school or department with the exception of Architecture enjoys support from federal agencies of all kinds. In a new program initiated in 1960 by the National Science Foundation by which matching funds are made available for research facilities 5 per cent of the total amount distributed nationally was awarded to IT departments. This, together with certain gifts from industrial foundations, has helped to alleviate the dire straits with respect to supply budgets and laboratory space.

The occupancy of the new Architecture building made some space available in the Main Engineering building, but this was immediately used up by Mathematics and Physics. The Physics space needs are still critical; the necessity of moving the group in theoretical physics out of the Physics building is regretted by both experimental and theoretical physicists.

The real service of the Institute of Technology lies in its teaching and research which are inextricably interwoven and where students at all levels are involved. The faculty, however, perform services which are invaluable

in the national sense, such as participation on advisory boards of the National Academy, National Science Foundation, Department of Defense, National Institutes of Health, State Department, and many others, including the Atomic Energy Commission on which one of our faculty served as a Commissioner.

The question is often raised why the Institute of Technology does not meet the "demand" for evening graduate courses. There is, however, the real question as to how great this demand is at the present time. Some years back a complete graduate program was established in the evening. Out of seventy starters, three completed the degree and two of those only by finally attending full time. Departments do, however, offer special courses for industry, schedule courses in the early morning or late afternoon for the convenience of industrial participants, and continually watch how industry can be served by summer programs, seminars, colloquia, and the like. The International Business Machines Corporation in Rochester has recently set up fellowships for its personnel so that they can continue their education full time at the University. This seems to be a most satisfactory plan. There is a very active work-study program in Mechanical Engineering and there are some indications that a similar program of work alternating between the University and industry can be beneficial for students in the School of Mines and Metallurgy and the Department of Agricultural Engineering. Summer work for the students in industrial activity that relates to their studies is encouraged both by maintaining relationships with industries who are willing to employ students during the summer and by giving nominal credit for such work.

Although undergraduate enrollment is fairly steady, it is well to bear in mind that one-fifth of all the students are graduate students, and in planning for the future it should be anticipated that the proportion of students in the Upper Division and the proportion of graduate students will steadily increase as more and more students take their preliminary work in junior colleges, state colleges, and private colleges in the area.

The University, and particularly the Institute of Technology, is an essential and integral part of the economy which supports it. Though many parts of the program are national and international in scope, they enhance the ability to carry out the prime responsibility to Minnesota. It is gratifying to note, therefore, that as the specialized industrial economy of the Upper Midwest expands, a steadily increasing proportion of our IT graduates accept positions in the state. This applies particularly to Electrical Engineering graduates, who are more closely related to Upper Midwest technology. During the past four years, this proportion has doubled for Electrical Engineering; of the 1959-60 graduates, more than one-half accepted positions within Minnesota. Outstanding faculty members play an important part in the growth of imaginative idea industries here. In this way through students and faculty IT serves the burgeoning Minnesota industries from which support for the University must come.—ATHELSTAN SPILHAUS, *dean*

INSTITUTE OF AGRICULTURE

Agricultural Experiment Station

Over the past few years, requests for support of new areas of research have been increasing significantly. This results from new needs arising out of the rapidly changing times, new technological advances and changing economic conditions. Such demands have come both from within the University and from agricultural interests outside. With insufficient additional funds for expanding into these new areas, it has been necessary to make a critical study of the entire agricultural research program to find ways of adjusting it to meet at least some of these demands for new research.

In this process all of the Experiment Station projects have been reviewed from their inception to the present, and have been studied from the standpoint of their publication productivity, funds spent, shifts in the direction of research, and their current importance. The results of this study have been discussed with each department head and as a consequence, considerable re-adjustment has been made in the program through the de-emphasis of work of lower priority and the expansion of studies representing more current need.

While there were increases in funds from most of the regular sources for the Experiment Station, these were very largely for salary adjustment. The salary improvement has made it possible to maintain a more favorable competitive position in the retention and recruitment of major staff, which is so important to the maintenance of a good research program. There was an increase in the General Agricultural Research Appropriation, but this was hardly sufficient to take care of the necessary salary increases for those being paid from these funds. There was no increase in the Rosemount Research Fund. There was some increase in the Federal Grant-in-Aid (Hatch) Fund, but this was not sufficient to take care of the necessary salary adjustments. A similar situation existed for the fiscal year 1959-60.

The dollar amount as well as the percentage share of funds coming from industry and foundations, continued to increase. The percentage of funds from industry has more than doubled over the past five years and for 1958-59 amounted to 7.5 per cent of the total funds available. The Hatch Funds continue to provide between one-fifth and one-sixth of the total. Direct state appropriations amount to approximately one-half of the funds spent for research and the total state contribution, including income from sales and contracts with state agencies, is approximately two-thirds of the total funds spent.

Contractual funds from various Federal agencies, continue to be a significant source of support, particularly the Atomic Energy Commission, the Department of Defense, U. S. Public Health Service, and the National Science Foundation. The share received from the latter source has been rapidly increasing. The National Institutes of Health have become more interested in those aspects of the research program which are health-related, and have made added contributions, both in the way of physical facilities and research operating funds, to an increasing number of individuals and departments in the Experiment Station.

A number of major grants from government and industry have been made to the Experiment Station to make it possible to expand research activities. Some of these were: U. S. Bureau of Public Roads, to study the impact of the freeway highway system on agriculture and related industries; National Institutes of Health, for fundamental studies on the origin of poisonous gases produced in silage; the Malting Barley Improvement Association, to study various phases of problems connected with the production of high quality malting barley. The Turkey Growers Associations have made significant grants to study problems of physiology of reproduction and the marketing of turkeys; the Hill Family Foundation has continued to support the new Landscape Arboretum at Excelsior which is developing into an area of major interest in the community. The American Dairy Association made a major grant for a study of dairy spreads; the American Dry Milk Institute for study of enterotoxin in dried milks; the Armed Services Chemical Corps for study of the 15B race of rust; Armour and Company for a study of artificial insemination in swine. The Army Ordnance made a significant grant for investigations of the composition of cellulose; the National Cheese Institute for a study on staphylococci in cheese; the National Institutes of Health for research on embryonic development.

The National Science Foundation provided funds for the following studies: the structure and development of insect membranes; linkage in finite cross-fertilizing populations; psychrophilic bacteria; trophic structure of fresh-water stream communities; development and use of short wave radio transmitters to trace animal movements; studies of the genus *Malacosoma*; responses to selection in mice; aphid fauna. The Rockefeller Foundation made grants for a study of wheat breeding and for studies on genetic potentialities in wheat and its important pathogens; the Tennessee Valley Authority for various studies of soil fertilizers; the Atomic Energy Commission for physiological crop ecology using radioisotopes; also for continuation of the studies of aplastic anemia of the bovine; the U. S. Public Health Service for studies on dissecting aneurysm in fowl; for research on polysaccharides; for studies on embryonic development; the intracellular bacteroids of cockroaches; and the Wisconsin Cooperative Bull Studs, for studies on long term storage of bovine semen. A number of smaller grants have been made from a wide variety of agricul-

turally related industries for support of the general research program in the various departments.

A number of shifts of emphasis have been made to bring the program more closely in line with current needs as indicated earlier. One of these has been the increase in emphasis on agricultural adjustments, including a more fundamental study of market structure by the Department of Agricultural Economics. The Department of Agricultural Engineering has increased its emphasis on crop processing and handling. The Department of Animal Husbandry has shifted the emphasis from developmental aspects of swine breeding to more fundamental studies in animal genetics as a basis for continued improvement. The Department of Agricultural Biochemistry with the financial aid indicated earlier, has been able to increase greatly its studies related to utilization research, particularly in the field of carbohydrate chemistry. Staff members have also significantly increased their work on malting barley.

The Department of Dairy Husbandry has been able to extend its studies in dairy cattle breeding by the addition of a large herd of Milking Shorthorns from the U. S. Department of Agriculture and a private donor in Pennsylvania. Following the separation of the Department of Dairy Industries from the Department of Dairy Husbandry in 1959, the department made a detailed study of its research program and has revised a number of projects to bring them up to date and to emphasize some of the more fundamental aspects of the problems being studied. The School of Forestry has expanded its studies in forest tree breeding, on timber products and marketing, and on Southern Minnesota hardwoods.

The School of Home Economics has been able to establish an area of research in the field of household equipment. The expansion in Horticulture has been particularly in the area of breeding woody ornamentals, which was made possible largely through the establishment of the Landscape Arboretum at Excelsior. Associated with this is the establishment of new work in the biology of micro-organisms related to diseases of ornamentals in the Department of Plant Pathology. The work on nematodes has been stepped up as a result of allocation of Regional Research Funds. The Poultry Department has initiated work in consumer acceptability of small turkeys. A modest expansion has been made in the general area of climatology in the Department of Soils and some work has been started on the relation of soils to grass seed production in Northern Minnesota.

There has been general extension of research in the College of Veterinary Medicine which is still supported in part from the Agricultural Experiment Station. The arrangements agreed upon at the time of the separation of the Veterinary College from the Institute of Agriculture continues to be effective. Rural Sociology has been able to initiate work on the effect of social security on rural people in Minnesota. The extensive project revisions made during the 2-year period, constitute an additional and continuing adjustment being made by the departments in their research programs to meet current needs.

On July 1, 1959, a new Department of Dairy Industries was established under the headship of Dr. S. T. Coulter. Experiment Station funds accompanied the projects to the new department but resulted in no significant change in the amount or the nature of the administration of research support to this new department interested primarily in dairy manufacturing and bacteriology.

In accordance with Legislative action, a new branch station to be known as the Southwest Experiment Station, was established at Lamberton, Minnesota, on October 1, 1959, on land purchased in January, 1959. By June 30, the station was essentially in full operation. The present studies are largely in the area of soils and crops.

Agricultural Extension Service

Agriculture and those enterprises associated or related to it are undergoing tremendous changes. The influences brought about by these changes are having significant impacts on rural families and rural communities. Such dynamics, however, are not restricted to the rural areas but affect nonrural

communities in many ways as well. These circumstances present significant program requirements. The Agricultural Extension Service is charged with bringing to people information growing out of research concerning agriculture and home economics. In this assignment the Extension Service brings to every crossroads in the state the tremendous educational and informational resources of both the University and the U. S. Department of Agriculture.

Programs and activities in the 1958-60 biennium were directed toward helping people deal with the various problems they encounter from day to day in agriculture and home economics. Many groups of informed local leaders gave their assistance and guidance toward developing and carrying forward these programs and activities.

By the close of the biennium the extension agents in the counties were working with approximately 181,000 different families in the state. This was being done at an annual rate of over 2¾ million contacts with people in these families.

Program Development—Traditionally, the program of extension work in agriculture and home economics in Minnesota has been the sum of the county programs developed by county program planning committees. This basic program framework has been supplemented by additional state or area programs within the state directed toward needs or problems which appeared to be common to all parts of the state, or to the areas concerned, and could be best approached on a broad basis.

Major areas identified by program planning committees for work by the Extension Service and toward which effort was directed in 1958-60 include:

1. Management of the farm business
2. Management in the home and of family finances
3. Lower unit costs in production
4. Improvements in marketing practices and marketing systems
5. Adjustment of youth programs in keeping with the changing needs of youth
6. Broader understanding of issues in public affairs
7. New information related to family living
8. Increased attention to the conservation of resources, with special reference to soil, water, and forests.

Program Activities—Space does not permit a complete reporting of extension activities. Only brief reference to the major fields indicated above can be made here.

In farm management the work was directed toward two facets: (1) information and teaching related to principles of organization and operation of the farm business, and (2) the selection of improved farming practices from various fields of technology and fitting these together in up-to-date and workable combinations.

All agricultural specialists and agents focus their efforts toward assisting farmers achieve lower unit cost production. Examples of work in this field are:

1. Pasture management demonstrations were conducted to show increased efficiency of pastures through the use of adapted mixtures, proper fertility, conservation measures and controlled grazing.
2. More general use of individual cow production records was promoted. At the close of the biennium numbers of cows in the state for which production records are being kept reached a new high. There remains much work to be done in this field, however. A new field of work undertaken is a joint project with the experiment station to test forage quality and the practicability of calculation of more specific rations for individual cows.
3. Swine producers were encouraged to test breeding stock for ability to produce litters having high feed conversion efficiency and meat-type character.

4. Demonstration structures in low-cost buildings and livestock equipment were worked out by local farmers and builders, together with extension agricultural engineers and county agents.

Work in marketing follows two levels: at the farm and with various kinds of marketing firms. Some examples of marketing work conducted during the biennium include:

1. Egg institutes featuring quality eggs were conducted by extension and experiment station personnel, with the aid of representatives of the State Department of Agriculture.
2. Elevator management courses were conducted under the leadership of the grain marketing specialist and conducted for employees of country grain elevators.
3. Work on organizational structure and management problems has been emphasized with a variety of co-operative organizations, particularly creameries. Assistance to over 1,200 co-operatives is reported for each year of the biennium.
4. Special outlook information programs on livestock marketing cycles and trends and feeder stock supplies were conducted throughout each year of the biennium. Work is now in progress with the producers of feeder pigs in the northern part of the state in an effort to develop a more orderly marketing system and production of a better quality pig which will be in demand by the livestock feeders in the surplus grain areas.
5. Information for consumers on quantities, sources, and uses of agricultural products in plentiful or heavy supply is provided through the work of the consumer information and fruit and vegetable marketing specialists. Most of this work was concentrated in the Twin Cities area, using radio and TV stations, plus press releases and special pamphlets for use throughout the state.

The 4-H Club program is a very important and significant phase of extension work. Participation at the close of the biennium had risen to over 50,000 boys and girls in the state, the large majority of which reside on farms. While project work emphasizing learning by doing is the core of the program, experiences which contribute to training in leadership and citizenship are also included. With roughly two-thirds of the farm boys and girls destined to find their vocations off the farm, emphasis has been placed on career exploration and counseling as a new feature in the 4-H program. Special support for 4-H Club work through private donors has been growing each year. These funds make possible the enrichment of the experience side of 4-H in ways which could not be undertaken with public funds.

Public affairs education is education for citizenship serving rural and urban people alike. This work was conducted through forums, special training courses, informational materials and a variety of other methods.

Attention in conservation of resources is focused largely on forests, soils, and more recently on water. Extension agents and forestry specialists have worked primarily with private owners of woodland toward development and maintenance of stand, sustained yield harvesting and to some extent preparation for market. Schools for sawmill operators were conducted. Soil conservation educational work is a major part of programs in most counties. In the last year of the biennium extension agents reported work with over 100,000 farmers on soil conservation problems.

Today's homemaker deals continually with the problems of how to get the most for her family from the funds at her disposal. Developments in food processing and packaging, new textiles and fabrics, household equipment and home furnishings are major areas in which assistance has been given through extension educational programs. New insights into the development and training of children made this a popular field for study also among many homemaker groups throughout the state. Home economics extension programs are adapted to all age levels from 4-H to young homemakers to those whose families have grown and left the home. Over 48,000 adult homemakers par-

ticipated in 1959 in nearly 3,400 groups, in addition to a significant amount of individual work.

Each year during the growing season large numbers of requests come to the St. Paul Campus for information on plant disease, insect control, and horticultural problems. Although half of such requests arise from out-state, the largest single source of these is the metropolitan area of the Twin Cities. To aid in providing answers to these questions quickly and efficiently special information centers on the campus were established by the Extension Service and the Departments of Plant Pathology, Entomology, and Horticulture.

Personnel—At the close of the program year there were 238 professional staff members in the Extension Service located in the counties and 70 headquarters on the St. Paul Campus. To augment the specialist staff, 14 graduate students were employed for part time each year of the biennium to assist in the conduct of extension work in marketing, information, farm management, rural sociology, horticulture, plant pathology, and entomology.

College of Agriculture, Forestry, and Home Economics

The increase in enrollment enjoyed by this college annually since 1953 reached a plateau during this biennium. Whether this leveling off was due to the unfortunate crop year of 1959, impact of the steel strike, general shortage of part-time employment for college-age students, the exhaustion of the initial force of the expanded interpretation of the college program following the 1953 enrollment study, or other factors is not clear.

During this period major changes occurred in facilities available on the St. Paul Campus for student service and classroom and related research activity. The Bailey Hall Dormitory was opened to students in the fall quarter 1958, with a capacity of 148 women and 150 men in separate wings, and with 108 women and 139 men in residence. This residence hall was dedicated on May 10, 1959, as was the New Student Center. The Student Center was completed in April, 1959. Already its impact upon the quality and kind of student and staff usage is evident. The program possibilities of the campus are much expanded with the availability of this facility. The first unit of the all-campus Dining Hall began operation in January, 1960. A deficiency appropriation of \$200,000 to complete this facility was passed by the legislature in 1959. The addition of the instructional area and special purpose conference-dining and lounge areas to the existing unit will add to the flexibility and the service potential of the Dining Hall.

New buildings housing the Department of Soils (September, 1958), the Dairy Industries Department (first unit September, 1958, second unit spring, 1960) and the Forest Products Laboratory (January, 1960) add a great deal to the efficiency and productivity of these programs.

The biennium marked the initiation of the major curriculum changes recommended by the Faculty Curriculum Self-Survey Committee and summarized in its final report to the faculty on November 17, 1958. Major changes included increased emphasis upon the social sciences and humanities, with additional mathematics and physical sciences in the various agricultural curriculums and with a corresponding reduction in the number of introductory courses in Agriculture required. Major curriculums in Forestry were reduced from 4 to 3, and minor programs were defined in appropriate agricultural and related areas. The trend toward more basic science, mathematics, and social science and humanities, with continued stress upon the development of communications skills, is evident the country over, and the curriculum changes noted in the College of Agriculture, Forestry, and Home Economics are in keeping with national movements in these fields at present. Of particular interest is the enthusiasm with which the required sequence in humanities has been accepted by students and faculty on the St. Paul Campus. This program, initiated in the fall quarter of 1959 and offered on the St. Paul Campus, will in the period ahead be administered by the Department of Rhetoric, which will maintain contact with the College of Science, Literature, and the Arts concerning staffing and content.

Requirements for admission to the College of Agriculture, Forestry, and Home Economics were revised effective fall, 1958 to include a minimum of elementary algebra for Home Economics and to include plane geometry as well as elementary algebra for curriculums in Agriculture.

Of major importance in St. Paul Campus programming was the termination by the Board of Regents on May 13, 1960 of the St. Paul School of Agriculture. To provide for the needs of those students who wish a collegiate experience in Agriculture but who may wish to begin farm operation after less than four-year period of study, the "Technical Certificate Program in Agriculture in the College of Agriculture, Forestry, and Home Economics" was approved by the college faculty on April 22, 1960, to be effective in the fall quarter, 1960. The "Technical Certificate Program" involves the development of no new courses. However, adaptation of offerings to individual needs through careful advising and home farm visits, and a balance among basic science, social science and/or humanities, communication skills, and technical courses in agriculture should provide useful preparation for farming or agriculturally-related occupations. This program will also accommodate the Foreign Exchange students during that portion of their experience here formerly provided by the School of Agriculture.

The Alumni Association of the College of Agriculture, Forestry, and Home Economics was organized in the winter of 1959, with the first annual meeting held on May 9, 1959, the second on May 7, 1960. Alumni assistance in interpreting college and university teaching programs to qualified young people of Minnesota could well make a significant contribution to the growth of the student body, in both numbers and quality. The need for Minnesota's youth, both rural and urban, to consider post-high school educational programs as contributing to a more rewarding personal existence and greater productivity is self evident. The interest of the College Alumni Association in this area is suggestive of useful outcomes in the years ahead. Further, the Alumni Association should function to inform graduates everywhere of the growth of the College and the University and of their special problems and needs, and serve to channel support and interest.

An anticipated campus tradition was initiated on May 21, 1959, when in place of the casual planting of a class tree, an organized senior class tree planting program was begun. The first group of three flowering crab trees "Red Splendor," was planted by the Class of 1959 in the southwest corner of the St. Paul Campus mall. Three flowering crab trees, "Radiant," were set out by the Class of 1960 on May 19, 1960. Space is available for similar plantings on the mall for the next 20 years.

In November 1958 a 60 per cent time administrative fellow and a half-time clerk-typist were added to the College Office staff to assist departmental and school efforts in the placement of graduates and to co-ordinate work in this area throughout the college. Reaction to this service has been positive and enthusiastic. Employing firms interviewing on this campus have multiplied five times during the biennium, and the response to employment counseling of students, facilitation of contacts through correspondence, and other placement activity have been highly gratifying.

Fifteen new scholarship funds specific to undergraduate students in the College of Agriculture, Forestry, and Home Economics were established during the biennium, providing annual assistance in excess of \$5,000 to twenty or more students.

The increasing costs of college attendance, together with some limitations in available summer employment for graduating high school seniors, place increased stress upon the usefulness of scholarship assistance in meeting college costs.

Schools of Agriculture

The Schools of Agriculture are going through a period of change that is perhaps more striking and drastic than anything that has taken place since the first School was established on the St. Paul campus in 1888.

Other educational institutions, notably the vocational program in Agriculture and Home Economics, have filled in part the need for training in this

field on a sub-collegiate level that existed in the early years of this century and the last decade of the previous century. School consolidation, the improvement of bus and transportation services, and the changing pattern of farm life has reduced the need for boarding schools that existed in the earlier years. This is not intended to imply that the Schools of Agriculture are no longer needed at all in the educational system of the state. The conclusion must be drawn however, that the Schools of Agriculture must fit their program to changing times if they are to continue to serve the needs of the rural population of Minnesota.

Two legislative committees have concerned themselves with the Schools of Agriculture. A Legislative Commission on Schools of Agriculture created by the 1957 legislature submitted a report in January, 1959 which recommended the development of 4-year college branches at the West Central (Morris) and Northwest (Crookston) Schools of Agriculture.

Another commission, the Legislative Commission on Higher Education, in a report submitted to the legislature in March, 1959, made these recommendations dealing with the Schools of Agriculture:

"That the Board of Regents be requested to develop collegiate programs at the University Agricultural Schools beginning with Crookston and Morris, and that adequate funds be provided for this purpose."

"That the Board of Regents be asked to study the possible use of the University Agricultural School at Grand Rapids in providing collegiate programs as a technical-vocational institute."

Still further mention of the Schools of Agriculture was made in the 1959 session of the legislature in a Senate concurrent Resolution concerning the establishment of college work at the Schools and Experiment Stations at Morris and Crookston by the University of Minnesota.

A rider to the House Appropriations Bill, later dropped, proposed the elimination of the School of Agriculture on the St. Paul campus in the second year of the 1959-61 biennium.

Several studies and surveys of the Schools of Agriculture have been made during the biennium by faculty and staff committees of the University. Probably more attention has been focused upon the Schools of Agriculture in this 2-year period than at any period in their previous history.

School of Agriculture—St. Paul—The School of Agriculture on the St. Paul campus as it has existed since 1888 was discontinued as of June 30, 1960. This change was made in response to an increasing demand on the part of students and alumni of the School that college credit be given for the work done.

The School of Agriculture has made an outstanding contribution to the educational history of Minnesota during the years of its existence. Thousands of young men and women from the farms have attended the School and then returned to their farm homes and communities to continue their leadership to the development of a better Minnesota. It is expected that the change to a college program will serve to expand the usefulness and influence of the old School of Agriculture program.

Northwest School—Crookston—As it has been for many years, the Northwest School continued to be the largest in terms of student enrollment with 390 students in 1958-59 and 344 in 1959-60.

For the 14-year period, 1944 through 1957, enrollment had been 400 or more students. The downward trend in enrollment, which began in 1956-57, has continued and is expected to continue in the years to come.

Major construction on the campus included a new classroom and laboratory building named the Hill Building to take the place of an old building of the same name. This was completed during the biennium and dedicated on November 24, 1959. Robertson Hall, a men's dormitory, was completely rehabilitated and remodeled and for all practical purposes is now much the same as a new building. Rehabilitation and construction of minor buildings has been carried on. The physical plant is much improved over the previous biennium, but there still exists a need for several major rehabilitation projects.

West Central—Morris—A rather drastic decline in enrollment took place at Morris in this biennium. In 1958-59 there were 306 students enrolled which was 35 less than the previous year and in 1959-60 there were 269 students. In just four years the enrollment at this school has dropped from 368 to 269 or 26.9 per cent.

The drop in number of students at Morris made room for an experimental program in college level instruction. By Regents action on October 31, 1959, it was decided to proceed with a first year liberal arts program beginning in the fall of 1960. School of Agriculture students who entered in the fall of 1959 will be carried through to completion of their course in 1963 but, after that date, the West Central School of Agriculture, as it has operated since 1910, will no longer continue the regular School of Agriculture curriculum.

This change in educational program at Morris will make a difference in the responsibilities of the Institute of Agriculture at that location. The College will operate as an independent unit and will not be the responsibility of the Institute of Agriculture. The Experiment Station and such teaching activities as Agricultural Short Courses, 4-H and Homemakers courses, will continue to be the responsibility of the Institute of Agriculture and will occupy jointly the facilities at Morris.

A major new building on the campus is Edson Hall, dedicated on November 25, 1959. This provides space for administrative offices, library and auditorium and replaced the old Administration Building which was removed in 1958. Some remodeling of the Dining Hall has been done, as well as in Home Economics and the Agricultural Engineering Building.

Southern School—Waseca—This School of Agriculture seems to be the exception to the statement that agricultural schools have a declining role to play in the educational pattern of Minnesota. First opened in the winter of 1953 with 43 students, the school has shown a steady growth in students. In 1958-59, 215 students entered and in 1959-60 there were 230 students.

The School facilities are used for various short courses and conferences as well as for the regular school program. This School has developed into a truly regional center for agricultural and related meetings and activities.

A new Physical Education Building completed in 1959 and dedicated on November 20, 1959, fills a long-felt need in this area.

North Central School—Grand Rapids—Enrollment at this School has remained practically constant over the past 10-year period. In 1958-59 there were 94 men in attendance and in 1959-60 a total of 98 enrolled. This School does not admit women students.

A major addition in course offerings at this School was made in September, 1958 with the establishment of a Woodsman's Training Program. This course of six-month duration has as its objective the training of men who wish to improve their skills and knowledge in the fields of forestry on a non-collegiate or subprofessional level. The curriculum consists largely of practical subjects taught mainly in the field.

For the past two years a small class of only twenty students has been accepted. The experiment so far has been very successful as judged by the comments of the students and the success in placing them in positions.

No major building projects have taken place on this campus during the biennium.

Agricultural Short Courses

During the biennium of 1958-60 there were 88 short courses, conferences and special events arranged through the Office of Agricultural Short Courses on the St. Paul Campus of the University, serving a total number of 28,076 persons. Comparative attendance figures for other recent biennial periods are:

1950-52	25,298
1952-54	24,503
1954-56	27,731
1956-58	28,506
1958-60	28,076
Ten-year total	134,114

In addition to those included in Agricultural Short Courses and extension classes, 295 foreign visitors were handled under the Foreign Contact Officer, who served also as Director of Agricultural Short Courses. These people were sent to the University of Minnesota by the International Cooperation Administration, the European Production Agency, the Food and Agriculture Organization of the United Nations, and other agencies; or who came under other auspices. The Agricultural Short Course office also served visitors from the community, vocational agricultural departments, public schools, and others, constituting at least 3,000 individuals for the biennial period, for whom general responsibility and planning were required.

In addition to the short courses, conferences, and foreign groups, the short course office also served as liaison office in the arrangement for special classes given by the Institute of Agriculture through the General Extension Division. This included the Correspondence Study Courses and the evening classes. During this biennium 10 extension classes were held with a total registration of 217; and 14 correspondence courses with an enrollment of 201. This meant a total of over 30,000 persons who in one way or another received the services of the University through the short course office.

Some of the short course programs were conducted in co-operation with the Waseca, Crookston, Grand Rapids, and Morris Schools of Agriculture during 1958-60. This was particularly true for the School Lunch Workshops. It was the desire of the State Department of Education that this program be expanded next year. A similar program is being planned with the State Department of Education for a short course to provide training for women to work in the food services at hospitals. There are also other programs under consideration which may well be held at the St. Paul Campus, Waseca, Crookston, Grand Rapids, Morris, or Duluth. The staff at the Rosemount Agricultural Experiment Station has been most helpful and co-operative in many of the short course programs.

Agricultural short courses and foreign student activities are operating very smoothly and efficiently in co-operation not only with the branch stations, but also with public schools, industries, citizen groups, and many individuals in related interests and activities.

In the handling of many of the foreign groups more contact with business and industrial groups has been established for co-operation with the University. This is also true of the federal and state agencies.

It is hoped that facilities will become more adequate for handling our short course people in the future when the Earle Brown Short Course Center is built on the St. Paul campus.—HAROLD MACY, *dean*

COLLEGE OF VETERINARY MEDICINE

The past biennium has witnessed a moderate progress in the development of Veterinary Medicine at the University. The buildings appropriated in 1957 are now in use, specifically the Diagnosis and Research Building and the two Isolation Facilities for infectious disease work. The ninth and tenth classes were graduated, there being 40 graduates in 1958 and 45 graduates in 1959. Since Veterinary Medicine was established as a School in 1947, 431 students have been graduated with the degree of Doctor of Veterinary Medicine. The maximum number of students in a freshman class continues to be 50 and cannot be changed until additional teaching facilities become available in the development of the minimum basic facilities for the College of Veterinary Medicine. The fact that the College could not continue development of its overall master plan in the stages outlined for the 1959 Legislature, has had its effect on the ability to retain key faculty members. During the biennium one instructor position was added, and several critically-needed subprofessional positions necessary to the teaching program were established.

Salary improvements during the biennium have been, for the most part, helpful in retaining faculty. The facilities in which to teach and do research are the most critical need.

Veterinary Medical Research and Graduate Education—The most significant development in this area is the marked increase in applicants and those

accepted for graduate training in the College of Veterinary Medicine. During the past biennium enrollment has averaged 30-33 graduate students, all of whom have received their D.V.M. degree and are doing graduate work in some special area. This has been aided materially by research projects supported by outside funds, from organizations such as National Institutes of Health, Atomic Energy Commission, and others. The establishment of a training grant, which provided seven Non-service Fellows to carry on post-doctoral work and participate in various research projects, has been stimulating to the graduate training program and helpful to the whole research effort of the College of Veterinary Medicine.

The Division of Veterinary Anatomy—The Division of Veterinary Anatomy has continued to develop and strengthen its teaching and research programs. The new facilities into which this Division moved two years ago, have aided materially in the teaching and research programs. Several foreign students in a senior staff category have spent an academic year in the Division of Veterinary Anatomy, including staff members from the College of Veterinary Medicine, Seoul National University, and the Veterinary College of Oslo, Norway.

The Division of Veterinary Bacteriology and Public Health—The teaching program of this Division has continued to develop although hampered by lack of facilities. The research program has progressed, with an increased number of research workers in this Division. These projects range from studies on brucellosis in cattle to egg transmission of infections in turkeys, with particular emphasis being placed on ornithosis in poultry. Basic studies dealing with antibody phenomena, supported by research grants, have aided materially the stature of the research effort in this Division. The availability of strict isolation facilities will improve the research and graduate training programs in this category.

The Division of Veterinary Pathology and Parasitology—This Division has made gradual progress in improving the teaching program. The addition of three Non-service Fellows on training grant funds has added materially to the research potential and graduate level instruction in this area.

Investigations include aplastic anemia in young cattle, supported by the Atomic Energy Commission, and additional support from a research grant from the National Institutes of Health has expanded the work in aplastic anemic and related diseases occurring primarily in young cattle.

The Division of Veterinary Physiology and Pharmacology—There has been continued development in the research carried on by the Division; however, the lack of certain facilities has hindered the development of some very worthwhile projects which should be carried out in both the area of Physiology and Pharmacology. The Department of Agriculture has continued to support the work on bloat in ruminants, Minnesota being considered one of the leaders in the basic studies involved with this disease phenomenon.

Various chemotherapeutic agents have been studied pharmacologically, and there has been an expansion in the studies of poisonings by heavy metals. Improvements on the diagnostic test for lead poisoning developed by this group several years ago have continued, as well as basic studies on the mechanism of certain poisonous agents.

The Division of Veterinary Medicine and Clinics—This Division has the prime responsibility of operating the teaching clinic for the Veterinary College, which includes both large and small animal clinics. This is an integral part of the teaching program. In addition to courses in medicine and the clinic teaching, courses are offered in surgery, radiology and obstetrics. There are many cases referred to the Clinic by other veterinarians, and many animals are trucked considerable distances to receive treatment in the Veterinary Clinic. As part of the teaching program, direct service is given to farms in the local area, primarily those in the area of Maple Plain, Minnesota, where a Large Animal Clinic is operated by this Division.

A large number of the disease entities presented directly to the Clinic are through field investigations which represent new problems and serve as a basis for expanding research on animal diseases in critical areas. There are a number of problems studied by the faculty members of this Division, some of which consist of shipping fever of beef cattle, bovine mastitis in dairy cattle and diseases of swine. Many of the Clinic staff participate co-operatively on research projects in other Divisions of the College. The staff members in the Clinic also participate in the investigations of disease outbreaks throughout the state, at the request of the local veterinarians, through the Livestock Sanitary Board offices. This not only is a service to the animal industry and an aid to the practicing veterinarian, but is an important part of the research program in the College of Veterinary Medicine.

The Division of Veterinary Surgery and Radiology—This Division has developed its entire program, both teaching and research, over the biennium. With continued improvements in radiology, the faculty members have been able to point out the importance of radiological techniques in making a clinical diagnosis. This Division has grown moderately, and although many of the staff members participate in projects in other Divisions, a project involving large mammals for the determination of radiological effects relative to the use of atomic power has made use of the Cobalt 60 source of radiation maintained on the Minneapolis campus, as well as co-operating with individuals in the College of Medical Sciences. The need for adequate teaching facilities, primarily for the beginning courses in surgery, has a limiting effect on the teaching program now offered to the veterinary student.

The Division of Veterinary Obstetrics—This Division continues to carry on an adequate teaching and research program; however, it is hampered to a considerable extent by the lack of staff and proper teaching facilities in the way of building space. The arrangements which they have with local packing companies continues to be one of the important sources of material for teaching junior students in the procedures employed in Veterinary obstetrical and sterility work. Studies on bovine vibriosis in relation to sterility, supported by the Hill Foundation have been completed.

The Division of Veterinary Diagnostic Laboratories—There is a continued demand for services from this area, which is the official Diagnostic Laboratory for the Livestock Sanitary Board. The Laboratory continues to serve the veterinary profession and the animal industry of the state, its primary function being to provide early diagnosis on animal diseases and to aid in their prevention and treatment. This Laboratory is the first line of defense against all animal diseases in the state of Minnesota and is constantly on the alert for morbidity and mortality trends of any specific disease, as well as the development of new diseases foreign to Minnesota. The failure of the Legislature in 1959 to provide additional funds for the operation of this Laboratory limits its service to a great extent, and will be more of a limiting factor now that they have moved into the partially completed Diagnostic Laboratory.

This Laboratory provides material for new research projects and participates co-operatively on many of the research programs in the College of Veterinary Medicine.—WILLIAM T. S. THORP, *dean*

COLLEGE OF MEDICAL SCIENCES

Building projects, including remodeling of old facilities and construction of new facilities, continued throughout this biennium in the Basic Science areas. These projects have provided important improvements in existing teaching and research laboratories and classrooms and new research areas for the Departments of Physiology, Physiological Chemistry, Pharmacology, Anatomy, and Pathology.

At the close of the biennium, the final phase in the remodeling of Millard Hall is underway, but additional funds will still be needed for the final phase of the remodeling of Jackson Hall. A recapitulation of the building and re-

modeling projects in the Basic Science areas together with the sources of funds for these projects is as follows:

	State Legislature	U.S. Public Health Service	University Funds	Total
Jackson Hall	\$ 305,291	\$ 72,332		\$ 377,623
Lyon Laboratories	82,918			82,918
Millard Hall	697,854	529,155	\$ 11,030	1,238,039
	\$1,086,063	\$ 601,487	\$ 11,030	\$1,698,580
Jackson-Owre Building	706,000	452,334	134,706	1,293,040
Totals	\$1,792,063	\$1,053,821	\$145,736	\$2,991,620

An additional floor (the fifth) of the Variety Club Heart Hospital was completed in February, 1959. This project, supported by a \$250,000 gift from the Variety Club of the Northwest and a U.S. Public Health Service Health Research Facilities Grant in the amount of \$229,321, has provided additional research laboratories for cardiovascular research under the direction of the Departments of Surgery, Medicine, and Pediatrics.

The Masonic Memorial Hospital, made possible by the Masons of Minnesota who provided \$1,000,000 for the project, opened during the biennium and has already served more than 1,100 patients with advanced cancer and other chronic, incurable diseases.

The Veterans of Foreign Wars Cancer Research Center, directly adjacent to and conjoined with the Masonic Memorial Hospital, was dedicated September 20, 1959 and was put into full utilization in the Fall of 1960. Made possible by a \$300,000 contribution from the Minnesota Department of the Veterans of Foreign Wars and a \$172,000 Health Research Facilities Grant from the U.S. Public Health Service, the VFW unit has added significantly to the cancer research potential of the Departments of Medicine, Surgery, and Pediatrics and the Divisions of Radiation Therapy and Dermatology.

The largest of the various building projects involving the College of Medical Sciences, the construction of Diehl Hall, was begun during the biennium and was approaching completion at the time of this report. Although a single building in the structural sense, this building incorporates two separate projects: a Biological-Medical Library and an expansion of animal research facilities for clinical departments. The location of the Biological-Medical Library in close approximation to the College of Medical Sciences will meet a long-standing need of the College. The excellent library will become much more conveniently available and will be of infinitely greater use to the staff in its new location.

Diehl Hall will also provide more than 40,000 square feet for animal quarters and associated research laboratories for various clinical departments and the Department of Bacteriology of the Medical School. Financial support of this project has come from the following sources:

For the Biological-Medical Library	
Legislative appropriation	\$832,000
Copavin Fund	108,000
Other	93,941
For the Animal Research Facilities Expansion	
Health Research Facilities Construction Grant (USPHS)	787,500
Gifts and Pledges	799,706
Miscellaneous University Funds	119,006

Medical Students—In the fall, 1958, the freshman class in Medical School increased from the previous figure of approximately 125 to 140 students. It was impossible to carry out the further increase to 150 students in the Fall of 1959, as had been proposed originally, due to lack of available financial support that would have been necessary. Contingent upon appropriate support, it should be possible to accept 150 students in the fall of 1961 and in subsequent years. This will represent a 20 per cent enrollment increase over entering classes for many years prior to 1958.

Nationally, the number of qualified applicants remains at a relatively low figure and appears to be decreasing despite the recognized need for more

doctors. An active informational program calling the attention of the young men and women of our state to the opportunities for careers in the medical profession has been maintained, and it, perhaps is responsible for the modest but hopeful increase in the number of applicants for admission to the University of Minnesota Medical School. For the entering class in 1957 there were 343 applicants; in 1958, 282 applicants; in 1959, 319; in 1960, 337 applicants and in 1961 more than 400 applicants. Thus, the classes are filled with qualified candidates, and should continue so, even taking into account the proposed enrollment increase.

Unfortunately, a good many medical students are obliged to live under conditions not at all conducive to study and learning because of very limited financial resources. Many carry heavy burdens of outside employment. The need for scholarship funds is great and compelling. The growth of the scholarship program of the Minnesota Medical Foundation which awarded in the form of scholarships the total of \$12,250 to 24 worthy students in the fall of 1958 and \$13,250 to 26 students in the fall of 1959 has been encouraging. This program has been of great value in helping students already in school who find themselves in financial straits.

Closely related to the scholarship program is the Research Fellowship Program for medical students, which has continued to grow during the biennium. Designed as a means of (1) permitting medical students to make use of free periods for working on research projects of their choice under the supervision of members of the faculty, and (2) providing them with stipends roughly equivalent to or at least competitive with what they might earn in nonmedical employment, the program has found wide acclaim among both students and faculty. Stipends, currently \$300 per month, are provided by a number of agencies, state, federal, and private. More than 135 students participated in the program during the biennium.

Medical Curriculum—On January 22, 1959, a 1-day symposium on Medical Education in honor of Dean Emeritus Harold S. Diehl was held. This symposium, which brought to the campus a number of the nation's outstanding medical educators, served as the initiation of an intensive study of the Medical School Curriculum, a study which occupied most of the calendar year 1959. The revised curriculum was adopted by the faculty upon the recommendation of the Curriculum Committee and went into effect on June 20, 1960. Major changes involve the final 2 years, that is, the clinical years of Medical School. The previous curriculum, especially the fourth year, was characterized by a serious, undue fragmentation of the student's time; gave him a rather compartmentalized view of his patients; and provided little opportunity for him to assume a role of responsibility for his patient, with the result that he was too often merely an on-looker, not a participant in the process of the care of the patient.

The most notable feature of the revised curriculum is the so-called Comprehensive Clinic Program, a 6-month experience centering in the Outpatient Clinic during the student's fourth year. This program provides an opportunity for the student to follow his patients throughout the entire hospital course and, even more important, to assume a meaningful responsibility for the care of his patients. His role in the Outpatient Clinic is now something akin to that of an intern.

In short, the Comprehensive Clinic Program re-emphasizes the patient as the unit of medical practice and patient care as the goal of practice. In this program, the student will be motivated, to an increased extent, to synthesize and extend his knowledge himself; in other words, he will assume a larger share of the responsibility for his own education.

Another feature of the revised curriculum, the Elective Period, also gives the student more responsibility and at the same time more latitude. During this 3-month period of time he may choose to serve a series of externships in various departments and divisions in order to broaden his clinical experience, e.g., in neurosurgery, urology, dermatology, etc.; he may elect to undertake a special study project or a research project in a basic science or clinical department; or he may study at another medical school, in this country or abroad, thus adding new and different viewpoints to his experience and to the experience of the faculty, as well.

Departmental Reorganization—One departmental reorganization was carried out. In recognition of the changing role of clinical laboratories in service, research, and training, the former Department of Medical Technology was reconstituted as the Department of Laboratory Medicine with Divisions of Clinical Pathology, Clinical Laboratory, and Medical Technology.

Private Consultation Practice—A major problem considered during the year was the matter of private consultation practice by members of the Medical School faculty. In an earlier day, private patients accounted for but 5 per cent of the patients. This proportion has increased steadily, now exceeds 35 per cent, and appears likely to continue to grow. The increasing number and proportion of private patients and the gradual disappearance of the indigent patient mean that private patients and private practice must be incorporated into the very fabric of the institutional operation in an orderly and manageable fashion. It has been necessary to consider how best to define and to delineate the private practice activities.

After extensive discussion, which revealed wide divergences of faculty opinion in this matter, an Interim Plan for the Regularization of Private Practice was adopted, constituting a first step toward regularization. This provides for a 2-year study period during which all aspects of this most difficult and complex problem will be examined by a special committee charged with the responsibility of developing a recommendation for a sound, permanent plan.

Louis D. and Maud Hill Family Foundation Professorships—During the biennium the Hill Family Foundation of St. Paul continued its support of the program of research professorships in the basic medical sciences. A new Hill Professorship was established, a professorship in Morphologic Histochemistry in the Department of Pathology. The Hill Professorships have made a most significant contribution to the activities of the various basic science departments and their influence will surely grow in the future.

Research—Faculty members are keenly aware of their obligations to seek new knowledge, to transmit it to their students, and to apply it in their laboratories and in the clinics and wards. Research understandably occupies a significant segment of their time and energy and constitutes such an integral part of the teaching program, especially the graduate education program, that the two cannot really be separated. Support of research and research training by outside agencies has been truly gratifying. New research grants and training grants in medical and related areas last year numbered 120. All grants and gifts in support of research amounted to almost \$5,000,000. Thus the total received by the institution from outside sources in support of medical and related research and research training exceeded \$6,000,000, with about three-quarters of it provided by various federal agencies, the balance by private contributors and voluntary health agencies.

The attack on heart disease continues in the basic science laboratories, where the physiology and biochemistry of the cardiovascular system are studied intensively; in the Laboratory of Physiological Hygiene, where the effects of diet on the incidence of heart disease are the subject of an extensive inquiry; in the Departments of Medicine and Pediatrics, where clinical aspects are investigated diligently; and in the Department of Surgery, where imaginative new surgical approaches, techniques, and materials permit the correction of defects once thought hopeless.

Surely the ultimate solution of the cancer riddle is brought closer by a better understanding of how cells—especially cancer cells—function, what makes them grow, and how they react to drugs and various other substances. Such studies are going forward in the Departments of Bacteriology, Anatomy, Pathology, Physiology, and Physiological Chemistry. In the Department of Bacteriology, an especially interesting research project has explored the relationship between viruses and human cells, shedding light on the question of why human cells are susceptible to certain viruses to which animal cells are not susceptible. Studies carried out in the Departments of Pediatrics and Surgery suggest that one day it will be possible to transplant vital organs from one human being to another.

The foregoing represents just a few of the areas of active and creative investigation by Medical School faculty members.

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. Its size in no way impairs its quality but rather makes it possible to offer a better, more complete program than would be the case if the program were smaller. During the past biennium registration in the various medical graduate programs amounted to an average of 560 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.

Fellowships for Graduate Education and Research—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.

Affiliation with Seoul National University, Korea—Since inception of the program 78 members of the Seoul National University Medical School Faculty have taken graduate instruction at the Medical School in Minneapolis. All of them have spent at least a year on this campus, and many of them have spent longer periods. Many of them have participated actively in research projects, and some have earned graduate degrees. Members of the Minnesota faculty believe that Korean physicians who have had an opportunity to study here will return to their native land better prepared to teach and to carry on research.

This faculty has carefully supervised the purchase of teaching and research equipment, books, journals, and other supplies, amounting to more than \$500,000 in total value, on behalf of the Seoul National University Medical School. It is likely that the affiliation between the University of Minnesota and Seoul National University will terminate on June 30, 1961, reflecting a change in emphasis on the part of the federal government in relation to its foreign-aid programs. It is hoped that, in these circumstances, some form of informal relationship between these two Universities can continue in order that gains that have been made will not be sacrificed.

Medical and X-ray Technology—Qualified technical personnel are playing an ever increasing role in the operation of hospitals, clinics, and physicians offices. The need for such people, particularly laboratory technologists and X-ray technicians, is very great and appears to be growing. The College of Medical Sciences offers a 4-year training program for medical technologists from which 23 students were graduated in 1958-59 and 28 students in 1959-60. The number of young women receiving degrees from this program is far smaller than desirable. The nationwide shortage of students interested in the field, characterized by a relatively long period of training, is one of the factors responsible for the small number of graduates. Another important factor, however, is the competition for such students provided by other schools which pay substantial stipends to students serving the practical or internship year. The Medical School is sorely in need of sources of funds for scholarships or other forms of assistance to students in this program in order that they can afford to remain for the full 4 years and not have to transfer to another school for purely financial reasons.

Recognizing the need for technically trained laboratory personnel, and recognizing also that not all such personnel must have the high level training of the 4-year program, the College of Medical Sciences together with the Extension Division developed a program known as Medical Laboratory Assistant Program. This is a 1-year course of instruction offered to capable high school graduates which enables them to carry out routine laboratory procedures. Initiated on an experimental basis, the program has proved very successful, and enrollments have been good and increasing steadily. In 1959, 39 students received certificates of completion of this course, while in 1960, 47 students received such certificates.

In X-ray technology two different courses are offered. The first is a 3-month series of lectures on the basic sciences as they are applied in X-ray Technology. This is open to high school graduates, but preference is given to students with some college background. During the biennium, 239 students took this course. Most of them were from other hospitals and clinics to which they returned with their practical training. In addition, the practical training in X-ray technology is offered to a smaller group of students. This course is a 2-year program, which includes the 3 months of basic science lectures. During the past 2 years, 35 students have successfully completed this course.

Continuation Medical Education—Medical education is a life-long process. The 4 years of formal training in Medical School serve to provide the basic information and skill which a physician must develop by continuing study throughout his entire professional career. This concept is widely recognized today and most medical schools as well as a number of hospitals, medical societies, and other institutions offer postgraduate courses for practicing physicians. Through its Department of Continuation Medical Education and the Center for Continuation Study, the University of Minnesota Medical School makes available each year to large numbers of physicians the opportunity to review fundamental material and to learn about the latest developments in the field of medicine. During 1958-59, 1,270 physicians attended continuation medical courses on the University campus, while 1,437 attended such courses during 1959-60. In addition to the foregoing, the department co-operated in the organization and presentation of courses for medical technologists and dietitians which attracted a total of 265 persons during the biennium.

Future Needs—Continued sound development of the College of Medical Sciences will require both additional support for faculty and physical plant additions. Major needs for faculty support are as follows:

Salary Increases—Gratifying salary increases have been made available during recent years. Competition, however, from other similar institutions is still exceedingly severe, and local salaries are at best, average. Continued improvement of faculty salaries is required, and major attention must be given to improvement of so-called fringe benefits.

Additional Faculty Positions—The need for additional medical school positions derives from two closely related features of the teaching program: the revised curriculum and the enrollment increase. The revised curriculum will require support for the Comprehensive Clinic Program, described above, and, since it envisions a year-round teaching operation, it will require conversion of all 9-month appointments in the clinical departments to 12-month appointments. The enrollment increase, both the initial increment already undertaken and the second, proposed increment, will require additional teaching staff in certain key departments and divisions. Teaching in medicine is tutorial in nature and is largely carried out in small groups in the laboratory or at the bedside. Even modest increases in the number of students, therefore, require additional faculty.

Physical Plant Additions—A new outpatient 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 in teaching, the Medical School enrollment increase, and the in-

creased number of patients seem to make a new outpatient building imperative.

A new hospital unit for rehabilitation patients, both adult and pediatric. Limited hospital facilities for patients undergoing important rehabilitation treatment are available for adult patients. No such facilities are available for children. Such a unit is badly needed to realize the full potential of today's rehabilitation techniques.

Additional Research Space—Despite recently added research space and still more laboratories to be opened within the next year, there is still insufficient research space. 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 severe problems regarding research facilities at the present time are Bacteriology, Pediatrics, Medicine, Physical 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

In the biennium just completed, the School of Nursing has continued to provide educational programs to prepare nurses, educators, and administrators as well as to increase the scope and quality of its community services.

The "Forward Look," watchword of the 50th Anniversary Celebration of the School in spring, 1959, has characterized faculty and student activities during this period. Emphasis has been placed on identifying and focusing concerted effort on those areas in which a University School of Nursing can make its most effective contribution to the health needs of the society of which it is an integral part.

Programs—Curriculums in nursing, nursing education, and nursing administration offered June 30, 1960, in the University of Minnesota School of Nursing and co-operatively with other colleges are listed below:

I. Curriculums for Graduate Professional Nurses

- A. Master of education program in nursing education.
- B. Master of nursing administration program in nursing service administration.
- C. Bachelor of science program in nursing education.
- D. Bachelor of science program in nursing administration.

II. Pre-service Professional Curriculums

- A. Bachelor of science program in professional nursing (16 quarters).
- B. Bachelor of science program in professional nursing for college graduates (10 quarters).
- C. Selected experience for undergraduate students in nursing from other colleges and universities.

III. Practical Nursing Curriculums

- A. Four-quarter program in practical nursing.
- B. Six-quarter program in practical nursing and home management. (This program was offered jointly with the School of Agriculture which closed Spring, 1960. No further classes will be admitted.)

In addition to the above regular programs the School of Nursing in cooperation with the General Extension Division offers special courses in extension and summer sessions for registered professional nurses and on request gives extramural courses.

Programs supported in part by federal, foundation, and other special funds are:

1. *Psychiatric Nursing.* Under the terms of the National Mental Health Act for support of instruction in psychiatric nursing, the School received during the biennium July 1, 1958 to June 30, 1960, \$23,847 for the instructional budget and \$5,600 for student stipends. Federal support of the psychiatric nursing instruction under the present grant terminates June 30, 1961. It is felt that the need for support still exists in Minnesota and in the surrounding area served by the University of Minnesota. The nursing needs of the mentally ill far exceed the supply of qualified nursing personnel. Consideration is being given to the establishment of a postbaccalaureate program to prepare expert practitioners in nursing if funds can be secured under the National Mental Health Act to support such a curriculum.

2. *Rural Instruction.* Legislative appropriation originally made in 1955 for the support of rural nursing instruction has been continued. During the biennium the 12 urban schools of nursing participating in the program have sent approximately 400 students of basic professional nursing to 1 of 11 rural hospitals and their communities for a 6-week experience in rural community nursing. In addition, 19 practical nursing students from the University of Minnesota 6-quarter program spent 10 weeks in 3 rural hospitals and communities.

3. *Disaster Nursing Project.* In recognition of the fact that as citizens, nurses have a responsibility to participate in disaster preparedness plans, and that professionally prepared nurses are responsible to society for leadership in the event of natural or man-made disasters, the University of Minnesota School of Nursing agreed to serve as a pilot area in an effort to determine curriculum content needed in basic collegiate and practical nursing programs to prepare nurses for mass casualty care and other nursing roles in Civil Defense. A grant of \$29,000 from the Federal Civil Defense Administration, administered by the National League for Nursing, made it possible to initiate the project. Since this period the faculty has continued to develop the inclusion of learning experiences throughout both programs and to prepare reports and participate in national conferences which make it possible to share widely the findings of this project.

Students—The bachelor of science degree in professional nursing was earned by 153 students during the biennium. In addition, 64 graduate nurse students earned the bachelor of science degree in nursing education; 32 the bachelor of science degree in nursing administration; 42 the master of education degree in nursing education, and 35 the master of nursing administration degree. In the practical nurse programs, 59 students completed the 4-quarter and 19 the 6-quarter curriculum.

Enrollment in the fall quarter, 1959, in the several programs totaled 394; 44 in practical nursing; 140 in preservice professional nursing; 80 in the bachelor of science program in nursing education; 37 in the bachelor of science program in nursing administration; 35 in the master of education program in nursing education; 24 in the master of nursing administration program; 15 adult special students and 21 undergraduate students from other colleges or universities for selected learning experience in clinical nursing.

During these 2 years the Nursing College Board and Powell Hall Governing Association have sponsored either individually or jointly such activities as Powell Hall Carnival, Red Cross, Campus Carnival and other fund raising projects. From these funds they have contributed to scholarships, to the sending of student representatives to state, national and international professional nursing meetings. Other student activities include participation in All-University Congress; "Career Day" programs in Minneapolis and surrounding areas; orientation of students interested in nursing, and student representation on faculty committees of the School.

During the biennium, 11 students received state scholarship assistance provided by the Minnesota State Legislature. Traineeships under the Health Amendments Act of 1956 were awarded 200 nurses preparing for positions in teaching, supervision and administration. Other scholarship assistance has

been: Alpha Tau Delta—2 students; Katharine J. Densford—10 students; SPAN—2 students; Marion L. Vannier—4 students; Tozer Foundation—1 student; Red Owl—6 students; Railway Business Women's Association of Twin Cities—8 students; Mt. Sinai Hospital Auxiliary—6 students; Dr. Martha Ripley Memorial—5 students; School of Nursing Foundation—5 students; Sigma Theta Tau—3 students. The Louise M. Powell Prize has been awarded to four students.

Accreditation—The University of Minnesota School of Nursing was visited for accreditation by representatives of the National League for Nursing in February, 1959. The visitors were accompanied by a representative of the North Central Association of Colleges and Secondary Schools who served as a generalist. Continuing accreditation was granted by the Collegiate Board of Review and recommendations following the review of professional nursing programs are being studied by the faculty and implemented as feasible.

The pre-service baccalaureate program and practical nursing programs of the school are accredited by the Minnesota Board of Nursing.

Seoul National University School of Nursing—The School of Nursing has continued to participate in the rehabilitation and development of the Seoul National University of Korea. Six Korean nurses have had varying periods of time for study at the University of Minnesota during this period and a seventh is expected in September, 1960. Each of these students has had an individually planned program of study focused on needs for their future participation in development of nursing service and nursing education at Seoul. An advisory committee of the University of Minnesota faculty maintains liaison in planning with the faculty member in Korea, communicating both through written reports and tape recordings. Faculty investment of time and energy in this project has been extensive. Its effectiveness cannot be assessed until a later time.

Fiftieth Anniversary of the School of Nursing—As the first University School of Nursing in the world, the celebration of the fiftieth anniversary of its establishment constituted a highlight of this biennium. Celebration activities of wide variety were held during the week of May 3 to May 8, 1959. The opening event, a Gala Concert by members of the Minneapolis Symphony Orchestra and the Combined Choirs of twelve Minnesota Schools of Nursing was climaxed by the singing of *Hymn and Benediction* written in commemoration by William Collins. Two series of conferences, one devoted to Liberal Arts and the other to Clinical Nursing, were scheduled concurrently through the week. The presentation of Lowell Manfull's play, *The Light in the Deepening Dark*, written especially for the anniversary, an All-University Convocation, a Garden Party, and the Fiftieth Anniversary Banquet with a historical pageant were additional events which served to highlight achievements and renew the challenge of *The Forward Look*.

A further commemorative undertaking was the documentation of the history of the school. Mr. James Gray was commissioned to write *Education for Nursing, A History of the University of Minnesota School* which is scheduled for publication fall, 1960 by the University of Minnesota Press.

University of Minnesota School of Nursing Foundation—The University of Minnesota School of Nursing Foundation was established during the fiftieth Anniversary celebration to provide a channel for gift support to the School of Nursing. Its primary objective is to give encouragement to alumni and friends of nursing to provide additional funds which will assist the School. Expanding educational opportunities through Scholarship and Fellowship programs, providing publication funds and annual lectureships; encouragement of research in nursing; and service through continuing nursing education programs, workshops, conferences and publication of bulletins are functions which the Nursing Foundation will help support. Although the Foundation has been in existence for only a short time, it has been possible to subsidize the publication of a *History of the School of Nursing*, provide scholarships for 12 students, and award a faculty fellowship for a year of graduate study.

Educational Plans and Needs—This School of Nursing is in a privileged position in that excellent clinical facilities are controlled by the University

and adjacent to its many other resources for conducting educational offerings. Furthermore, unusually effective functional relationships exist between faculty of the School of Nursing, nursing personnel of the University Hospitals and Public Health Nursing faculty members. The need continues to exist for more adequate support for qualified faculty members to conduct programs in nursing, nursing education, and nursing administration that exemplify sound principles of professional education. An increase in numbers of qualified faculty is essential to make possible expanded enrollment and provision of services now being requested in the area served by the University.

It is anticipated that during the next biennium the preservice program will be altered to be more nearly similar in length and format to undergraduate programs generally. As this is accomplished programs of study for registered nurses will be altered to meet objectives appropriate to baccalaureate education.

Enrollment in graduate programs has reached a point where further expansion is unwise unless additional budgetary support for faculty is available. Recognition of the crucial need for teaching, administrative, and supervisory personnel is seen in the Health Amendments Act of 1956 which provided and continues to provide traineeships for graduate nurses preparing in these fields. This type support for students is crucially needed but does little to augment personnel and facilities required by educational institutions to provide desirable learning opportunities for them. The University of Minnesota is the only institution equipped and in position to meet the mounting need for teachers and administrative personnel in nursing for the state and region. Unless it makes provision for expansion of these programs, the need for practitioners of nursing and for improved nursing service of all types will continue at an accelerated rate.

Remodeling of Millard and Owre Halls, anticipated during this biennium, has not met expectations visualized earlier. Functional space for offices and conferences continues to be a major problem. Need for office and conference space in the clinical areas of the Hospitals continues. It is hoped that as the Bio-Medical Library becomes available during the coming biennium both faculty and students can profit by these facilities.—EDNA L. FRITZ, *director*

School of Public Health

The past biennium has been marked by several developments which have increased the work load of the School of Public Health, and at the same time have eased some of the financial problems.

During recent years, the registration of the School of Public Health has consistently grown so that it is today the largest school of public health in the United States in terms of students registered. During the biennium, in addition to a large enrollment of students from the United States, the School has had 65 students from 30 foreign countries, most of these being sent under the auspices of the World Health Organization or the International Cooperation Administration. In addition to the foregoing, who were registered throughout the academic year, the Summer Session has brought a growing load of students for the regular summer offerings, as well as those for special summer courses. A further burden on the School has been a growing load of students in the courses offered for other parts of the University, notably general information courses offered for the undergraduate colleges. The only relief from this mounting load was in a course on School Health previously required for students in the College of Education but discontinued as a requirement effective the academic year 1959-60. Discontinuance of this course means that the teachers, who are being trained in the College of Education and who under Minnesota law will be responsible for health programs in their schools, are receiving no more instruction in matters of health than is required of students receiving other college degrees. All of this means inevitable incompetence within this important phase of school responsibilities.

During the biennium, several special programs have been conducted or inaugurated. Notable among these are the following:

Extension Courses in Public Health Nursing for Nurses in Other States
—Under an arrangement with the Public Health Service, the latter assigned

to the University one of its nursing staff to conduct extension courses in Public Health Nursing in neighboring states. This nurse officer was so assigned for the year 1957-58 and continued on throughout this biennium. During this time courses conducted in Iowa, South Dakota, Kansas, Missouri and Nebraska reached over 500 nurses who were on duty in those states but were unable to get away for extended periods of study during the regular academic year or summer session. This program has served a very useful purpose to help to raise the standards of public health nursing in this region. Unfortunately the Public Health Service cannot detail this officer beyond the end of the biennium. Federal funds are appropriated to continue this program, but the problem will be that of finding a suitable person who can spend this amount of time on the road and is suitable for instruction of this character.

Ground Water Development Course—At the request of the International Cooperation Administration and the World Health Organization, and with a grant of assistance from the former, the School of Public Health, during the summer of 1959, conducted a 10-week course on ground-water development. The students were sent to the course by these and similar agencies. During 1959, the School had 43 students from 26 countries. The course is being repeated for the summer of 1960, with 34 students from 25 countries being registered. In the conduct of the course, the School has had invaluable assistance from the Edward E. Johnson Company of St. Paul, which has not only provided staff to assist in the instruction, but has actually provided staff who were competent in three languages other than English, thus facilitating the instruction of students from foreign areas.

Statistics in the Health Sciences—Two years ago the United States Public Health Service subsidized a 6-week summer program on statistics in the health sciences at the University of Michigan. It was understood at the outset that, after 2 years at Michigan, the program would be moved to some other University, preferably the School of Public Health at the University of Minnesota. This move has been made and the program begun for the first term of Summer Session, 1960, with a registration of over 75 students. These students are registered in a mixture of 10 different courses, instruction for which is being provided by University staff supplemented by 10 guest instructors, all of them with senior academic rank from other universities.

Doctoral Programs—One of the most notable advances of the biennium has been the development of Doctoral programs in epidemiology, sanitation, and hospital administration. Although all the other accredited schools of public health in the United States offer programs leading to the degree of doctor of public health, the staff at Minnesota has felt that this is a standard degree, as requirements for it are so far below those for the doctor of philosophy degree. If public health is to occupy its rightful place in the academic world, its standards must be equal to those of other disciplines. The establishment of doctoral programs in these three fields, supplementing those previously recognized in biostatistics and physiological hygiene, constitutes a definite landmark in the progress of the School.

Special Institutes

Maternal and Child Health—For some years, the Children's Bureau has been subsidizing instruction in the field of maternal and child health within the several schools of public health. During the past biennium, it has initiated a series of institutes jointly with the Schools of Public Health of the University of Minnesota and University of Michigan, said Institute to alternate between the two institutions. The first of these was held at Minnesota in December, 1958, and brought participants from all over the Midwestern states. That for 1959 was held at Michigan with the understanding that the 1960 institute would return to Minnesota.

Chronic Diseases—At the request of the Public Health Service, and with a grant from it, the School, acting through the Center for Continuation Study, conducted a four-week program in control of chronic diseases. This program was jointly sponsored by all the other schools of public

health except Harvard. The schools at California, Columbia, Johns Hopkins and Yale contributed instructional staff.

The increased activity and teaching load upon the School of Public Health noted above, has of course meant an increased financial burden. Fortunately, federal funds have become available in recent years which have cared for this burden. Numerous special grants have been obtained covering instruction in such fields as biostatistics, epidemiology, and air pollution, which have supplemented previous special grants in the fields of mental health and chronic diseases. Most notable, however, was the passage of the Hill-Rhodes Act in the previous biennium, under which the Public Health Service makes support grants to schools of public health. As originally passed, this act had a 2-year limit, but during the past biennium this time limitation has been removed so that the School, subject to Congressional appropriation, can look forward to continuing substantial grants to help offset the increased costs of instruction. Under the formula for distribution of these funds, the School of Public Health at Minnesota received the largest share, owing to its very large enrollment of students supported under federal training grants. It is probable that the School can look forward to continuing support under this act in years ahead and can possibly obtain even more assistance from special categorical grants.

The two basic problems that face the School of Public Health at the present time, therefore, are not funds but recruitment of personnel and space for operation. Although there are now adequate funds to hire additional personnel, the School has been unable to recruit such, owing to the fact that academic staff carried out of non-support funds cannot be incorporated into the retirement system nor be eligible for other fringe benefits. The persons needed to teach public health are those who have had practical experience as well as academic training. This means that these persons are already incorporated into a retirement system either in their public health agencies or in other institutions and are not willing to come to Minnesota if it means casting these benefits aside. The result is that, although the School has ample funds with which to fill additional positions it has been unable to recruit personnel so that the increased teaching burden has had to be absorbed by a staff that is static in size, and already carrying a far heavier teaching load than is demanded in any other school of public health in this country.

A second difficulty has been that of space. The School is already badly overcrowded in its quarters in the Mayo Memorial building, owing to the fact that there has been expansion far beyond what was envisioned at the time of the planning of the building. Thus the Biostatistical unit which was planned for not more than three or four graduate students is now accommodating 25 graduate students. The Laboratory of Physiological Hygiene is particularly handicapped by inadequate space and is in the situation of being unable to carry on research programs for which money is available simply because it does not have suitable quarters. Those that exist, which were improvised underneath the stadium, are grossly inadequate and are such as seriously handicap the effective operation of the laboratory. The most serious needs of the School in the future are those of space and changed policy with respect to fringe benefits for personnel supported out of non-support funds.—GAYLORD W. ANDERSON, *director*

University of Minnesota Hospitals

The University of Minnesota Hospitals was established to furnish a means for the University of Minnesota to train students in the multiple fields of medical care. Training is given in the Hospitals under the direct supervision and guidance of a staff made up of a full-time and part-time faculty. The staff is responsible to the State through the University for both the instruction of the students and the care of the patients. This arrangement has proved satisfactory not only in the training of students but also as an economical means for the State to care for many of its indigent sick.

The University of Minnesota Hospitals provides many different medical services within its many units and makes available its facilities and services

to enable physicians to provide their patients with the best possible care consistent with the progress in medical science.

University of Minnesota Hospitals Admission Policy—In applying for admission to the Hospitals, it is required that the patient be referred by his family physician or by a physician in his local community. This rule avoids the criticism that the Hospitals and its clinics are taking patients who should be seen by private practitioners. This same policy holds true for patients admitted to the Variety Club Heart Hospital or any other unit of the Hospitals.

Patients are classified according to their ability to pay as County, Per Diem, Teaching and Research, Sixty Fund, Eustis, Rehabilitation, Multiple Sclerosis, Private, and, in the case of the Heart Hospital, the Variety Club of the Northwest Fund. There is no distinction made between the various classes in the treatment or privileges afforded.

County patients are those who are totally unable to pay. Their expenses are shared equally by their county and the state. When applying for either outpatient or hospital care, these patients must present county papers filled in by both their physician and their county commissioner (or his representative).

Per Diem patients are those who cannot afford to pay for the services of both a private physician and a private hospital. When applying for either outpatient or hospital care, these patients must present a special form filled in by themselves and their family physicians. They are required to pay their clinic or hospital expenses only, no charge being made for the professional services of the staff. From the standpoint of money received by the Hospitals, there is no difference between a county patient and a per diem patient; consequently, the services and privileges tendered both are identical.

Teaching and Research patients are primarily destitute unmarried obstetrical patients who are unable to avail themselves of county papers.

The *Sixty Fund* is a special grant from the state legislature which is used to hospitalize indigent psychiatric patients for treatment, teaching and research purposes.

The *Rehabilitation Fund* is a fund provided by the legislature for the use of the Hospitals, through the Department of Rehabilitation and Physical Medicine, to aid in the physical rehabilitation of patients. Referral by a physician is required.

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 any of the communities in the Club area which includes Minnesota, North Dakota, South Dakota, parts of Wisconsin or any other area indicated by the Club. Patients may be admitted for care on this fund on the usual recommendation of a physician. The Variety Club itself may at times wish to indicate and request service for certain patients in which they have a special interest, care to be paid for through this fund. No charge will be made for the professional services of the staff—only for clinic or hospital expenses.

Student Health Service patients are not considered as being Hospitals patients even though a Hospitals intern is assigned to that service. The Student Health Service has its hospital quarters in the University Hospitals but is not a part of the University Hospitals. The infirmary occupies the fourth floor of the north wing of the Hospitals.

Inpatient Department—The number of patients admitted during the year 1959-60 was 16,096 and in 1958-59 the number was 16,322. The total number of days of hospital treatment aggregated 214,320 for 1959-60 as against 204,941

in 1958-59, an increase of 9,379 patient days. The average length of stay in the Hospitals was 13.3 days in 1959-60 and 12.6 days in 1958-59. The daily average census was 585.6 in 1959-60 and 561.5 in 1958-59. The waiting list of the Hospitals was approximately 100 patients on July 1, 1960.

Surgical operations performed during the year 1959-60 aggregated 10,550 as compared with 10,537 during 1958-59.

Deaths in the Hospitals for the year numbered 839. Of this number, 86 occurred within 48 hours after admission, 150 deaths occurred in the Heart Hospital, and 162 in the Masonic Hospital. Post mortems for the year 1959-60 were 683, an average of 85.9 per cent, and in 1958-59 the number was 697, an average of 86.1 per cent.

Cost of Operation—The over-all cost of running the Hospitals was \$37.45 per patient day in 1959-60 and \$35.66 in 1958-59, an increase of \$1.79 per patient day. The cost per outpatient visit was \$8.07 in 1959-60, and in 1958-59 the cost was \$7.25, an increase of \$.82 per patient visit.

The Outlook—The Hospitals anticipates a comparable level of operation in 1960-61. Operating costs will continue to rise, and the increase must be met by an appropriate increase in charges. No new construction is planned, but renovation of the existing facilities will continue. The new appointment system in the Outpatient Department should result in improved patient care. The Hospitals will continue to provide a high quality of patient service while participating in teaching and research programs.

The shortage of skilled hospital personnel still continues to exist. Increased demand for hospital services, widespread hospital construction, and the constant increase in new and better medical techniques have all contributed to this shortage. While every effort will be made to recruit additional skilled personnel, more emphasis must be placed upon the better utilization of the existing staff.

In Appreciation—Hospital funds alone cannot provide for all the needs of an institution, satisfying the technical demands and the demands of day-to-day operation. Since hospitals vary in their requirements, and the public's desire to serve varies with individuals' abilities and interests, no pattern for requests can be set.

One paramount need of a hospital, however, 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 continued interest of devoted friends contributes immeasurably to telling the hospital's story.

The University of Minnesota Hospitals is fortunate in having individuals and groups of individuals who show this interest and devotion. Thus it is fitting to thank the Masons of Minnesota and their affiliated organizations for their liberal donations which have made possible the Masonic Memorial Hospital; and to thank the Variety Club of the Northwest for the funds for the construction of the fifth floor of the Variety Club Heart Hospital, and for its continued generosity in providing funds for patient care.

Also deserving of thanks are the Variety Club Auxiliary for support to the Variety Club Heart Hospital; the University Hospitals Auxiliary—along with other sections of the Faculty Women's Club—for generous efforts on behalf of the patients; the Directors and staffs and members of the County Welfare Departments; the Minnesota State Department of Welfare; the Minneapolis Department of Relief; Miss Rosa Stadem, Hennepin County Commissioners Office; the Minnesota Society for Crippled Children and Disabled Adults; Travelers Aid; the Minneapolis Council of Churches; the Hennepin County Chapter of the American Red Cross; the State Division of Vocational Rehabilitation; the Lutheran Welfare Association; the Family and Children's Service of St. Paul and Minneapolis; the Combined Nursing Service of Minneapolis; the Family Nursing Service of St. Paul; the Hennepin and Ramsey County Nursing Services; the State Board of Health; the Community Information Service; the Minneapolis Society for the Blind; Booth Memorial Hospital; Phillips "66" Men's Club; the Alpha Lambda—Air Line Hostesses; and the many other organizations and individuals who have contributed to

the patients' welfare, including, of course, the chaplains who minister so faithfully to the spiritual needs of patients.

Thanks are also in order to the volunteer workers who have so generously given their time in performing services for the patients and in assisting the staff and to the many people who have contributed to service and research funds during the year.

The administration also desires to express its gratitude to the members of the professional and service staffs for their loyalty, helpfulness, and considerate care of patients.—RAY M. AMBERG, *director*

TABLE I. COMPARATIVE 12-MONTHS REPORT INPATIENT DEPARTMENT

	1958-59	1959-60
Total patients admitted		
County (A)	4,255	4,372
Pay and per diem (B,D,C)	8,837	8,604
Student Health Service	1,523	1,388
Psychiatry	409	329
Psychiatry (pay and per diem)	497	381
Child Psychiatry	92	153
Child Psychiatry (pay and per diem)	80	93
Free	273	272
Eustis	158	163
Variety Club Fund	19	5
Masonic Hospital		
County	77	156
Pay	94	179
Rehabilitation	8	1
Totals	16,322	16,096
Total patients treated (discharged)		
County (A)	4,691	4,725
Pay and per diem (B,D,C)	8,100	7,773
Student Health Service	1,526	1,365
Psychiatry	465	405
Psychiatry (pay and per diem)	438	328
Child Psychiatry	109	163
Child Psychiatry (pay and per diem)	71	81
Free	273	285
Eustis	174	177
Variety Club Fund	28	13
Masonic Hospital		
County	184	412
Pay	187	315
Rehabilitation	10	2
Free		1
Totals	16,276	16,065
Total days hospital care		
County (A)	71,148	72,529
Pay and per diem (B,D,C)	85,721	84,146
Student Health Service	5,724	5,484
Psychiatry	10,711	11,836
Psychiatry (pay and per diem)	9,288	8,194
Child Psychiatry	3,464	3,795
Child Psychiatry (pay and per diem)	1,474	1,652
Free	1,953	1,666
Eustis	1,752	1,255
Variety Club Fund	624	307
Masonic Hospital		
County	7,940	15,801
Pay	5,029	7,251
Rehabilitation	113	8
Free		396
Totals	204,941	214,320
Average days per patient		
County (A)	15.2	15.3
Pay and per diem (B,D,C)	10.6	12.0
Student Health Service	3.8	3.9
Psychiatry	22.1	29.0
Psychiatry (pay and per diem)	21.2	30.9
Child Psychiatry	31.8	22.2
Child Psychiatry (pay and per diem)	20.8	19.2

TABLE I.—Continued

	1958-59	1959-60
Free	7.2	6.8
Eustis	10.1	7.3
Variety Club Fund	22.3	43.9
Masonic Hospital		
County	43.2	38.2
Pay	26.8	22.1
Rehabilitation	11.3	8.0
Average length of stay per patient	12.6	13.3
Daily average number of patients		
County (A)	194.9	198.2
Pay and per diem (B,D,C)	234.9	229.9
Student Health Service	15.7	15.0
Psychiatry	29.3	32.3
Psychiatry (pay and per diem)	25.5	22.4
Child Psychiatry	9.5	10.4
Child Psychiatry (pay and per diem)	4.0	4.5
Free	5.4	4.6
Eustis	4.8	3.4
Variety Club Fund	1.7	.8
Masonic Hospital		
County	21.7	43.2
Pay	13.8	19.8
Rehabilitation .....	.3	.0
Free		1.1
Daily average census for hospital	561.5	585.6

TABLE II. COMPARATIVE 12-MONTHS REPORT OUTPATIENT DEPARTMENT

Service	New Patients		Revisits		Totals	
	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60
Medicine						
General	2,948	2,936	7,772	6,405	10,720	9,341
Allergy	55	58	1,692	1,432	1,747	1,490
Arthritis	108	105	1,294	1,053	1,402	1,158
Cardiac (adult)	406	376	2,357	1,995	2,763	2,371
CMC (Combined Medical Clinic)		5	70	85	70	90
Chest	60	28	571	362	631	390
Diabetic	121	80	1,021	953	1,142	1,033
Gastro-intestinal	28	13	198	155	226	168
Hematology	44	23	949	810	993	833
Metabolism	23	23	884	493	907	516
Dermatology and Syphilology	658	598	3,442	3,668	4,100	4,266
Neurology						
General	487	411	856	808	1,343	1,219
Convulsive Disorder		4	1,276	1,165	1,276	1,169
Headache	16	4	136	109	152	113
Multiple Sclerosis	7	7	367	539	374	546
Muscular Dystrophy	10	1	107	83	117	84
Parkinson	1	7	323	268	324	275
Psychiatry	426	362	3,728	4,199	4,154	4,561
Surgery						
General	605	483	4,206	3,254	4,811	3,737
Plastic	41	46	405	291	446	337
Proctology	337	287	872	788	1,209	1,075
Orthopedic	440	402	2,177	2,005	2,617	2,407
Urology—Female	147	101	333	455	480	556
Urology—Female Tumor	16	8	43	45	59	53
Urology—Male	270	183	963	1,038	1,233	1,221
Urology—Male Tumor	42	27	256	273	298	300
Neurosurgery	62	97	608	614	670	711
Eye						
General	872	718	4,712	5,838	5,534	6,556
Refraction			582		582	
Squint	5		337	257	342	257
Ear, Nose and Throat						
Audiology	622	621	3,305	3,449	3,927	4,070
	546	774	850	800	1,396	1,574

BIENNIAL REPORT

TABLE II.—Continued

Service	New Patients		Revisits		Totals	
	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60
Gynecology						
General	470	381	1,316	991	1,786	1,372
Gynecology Tumor	73	77	1,590	1,631	1,663	1,708
Gynecology Proctology	1	4	160	170	161	174
Obstetrics	522	412	3,754	3,142	4,276	3,554
Night Obstetrics			62		62	
Pediatrics						
General	1,176	1,039	5,129	4,439	6,305	5,478
Allergy	14	2	390	306	404	308
Cardiac	438	373	1,506	1,466	1,944	1,839
Convulsive Seizure	12		520	538	532	538
Endocrine	2		249	290	251	290
Peds Hematology	4		333	527	337	527
Child Psychiatry	740	549	1,279	2,137	2,019	2,688
Peds Neurology	35	1	306	485	341	486
Peds Renal	2	3	284	280	286	283
Child Development Study			342	1,097	342	1,097
Well Baby	14	7	311	65	325	72
Tumor	181	155	2,183	1,919	2,364	2,074
Emergency	3,378	3,692	19,279	14,247	22,657	17,939
Nutrition	1,365	1,028	597	1,059	1,962	2,087
Dental	85	89	2,369	2,337	2,454	2,426
North	3,269	3,229	19,295	17,371	22,564	20,600
Physical Medicine and Rehabilitation	556	456	1,607	1,131	2,163	1,587
Totals	21,740	20,285	109,553	99,317	131,293	119,602

TABLE III. DIVISIONAL ADMISSIONS

Service	1958-1959			1959-1960		
	Admis- sions	Total Patient Days	Average Stay (Days)	Admis- sions	Total Patient Days	Average Stay (Days)
Psychopathic Department						
Psychopathic Department	906	19,999	22.1	710	20,030	28.2
Child Psychiatry	172	4,938	28.7	246	5,447	22.1
Variety Club Heart Hospital	1,636	23,148	12.0	1,844	22,904	12.4
Masonic Memorial Hospital	381	13,082	34.3	730	23,456	32.1

TABLE IV. SPECIAL SERVICES

Service	1958-59	1959-60
Outpatient Department		
New patients	21,740	20,285
Total patient visits	131,293	119,602
X-ray Department		
Procedures	70,213	66,851
Department of X-ray Therapy		
Deep Therapy Treatments	20,509	20,840
Cobalt Machine Treatments	13,189	13,442
Superficial Treatments	606	1,055
Hospital Laboratories		
Determinations	745,093	769,502
Pharmacy		
Prescriptions	230,531	251,206
Rehabilitation Center		
Patients	3,200	3,612
Patient visits	49,718	55,642

SCHOOL OF DENTISTRY

Probably the most important observation that should be noted is a gradual change in the character of the educational objectives of this area. Profound changes in the realization of changed objectives are hard to observe year by year or even in a biennial period. However, from time to time it should be noted that long range objectives for improvement in the responsibilities of a school in the University should be noted.

In the past dentistry has been concerned largely in meeting the emergency presented by decayed and missing teeth. The educational programs have reflected these pressures. Therefore, the educational program in dentistry at Minnesota, as elsewhere, has been chiefly concerned with restorative procedures. Not enough attention has been given to the cause and prevention of dental disease.

This approach to dentistry was of considerable concern to the administration of this University in 1945. The University of Minnesota School of Dentistry had gained an eminent position in the eyes of the world regarding dental restorative procedures. No center of education was more highly respected in this regard than this school. However, it was quite obvious that there was a very definite lack of interest in research as related to the understanding and prevention of dental diseases. Without injuring or in any way detracting from the excellence of our instruction and reputation in the restorative fields, it has been necessary to impose upon the program a philosophy which embodies the responsibility of not only doing an outstanding job of teaching at the undergraduate level, but one just as strong in the field of research, understanding and prevention. This meant the acquisition of faculty endowed with these philosophies and the space and time to implement the added program.

Since no new space outside of Owre Hall was available it has been necessary to carefully study and reassess the available space within the building and make room for new activities for more efficient use of the space already available. To this end the storage space on the entire fifth floor has been remodeled and is now available and being used for research activities exclusively. This includes laboratories, animal quarters, and office space for faculty and graduate students. Approximately one half the space on the balcony floor has been redesigned for research activities in the field of periodontology. The study and treatment of the diseases in this area are responsible for the loss of at least half the teeth. Interest in the etiology and prevention of this disease has over the past 15 years blossomed into a program in which Minnesota can justly be extremely proud.

During the last month of this biennium a seminar was held at the University of Minnesota regarding the research and graduate programs in periodontia in which two members of the faculty of each school of dentistry in the United States and Canada participated. Along with them came noted educators and research workers in this field. The leadership of the Minnesota faculty and the example of their program was a great stimulant in helping to guide programs on sound scientific objectives.

Space has been developed for a laboratory for the investigation of the physical properties of dental materials. Out of this laboratory have come two very profound discoveries which have been a great stimulant to productive research in restorative filling materials throughout the entire country. These two important discoveries are: The use of radioactive isotopes to determine how well fillings are adapted to tooth structure. The success of any filling depends upon how well the filling material is adapted to cavity walls and dentistry has never had a good tool to measure this. The mechanics of the use of this material was worked out in the Dental Materials Research Laboratory. The second important tool was the method by which the amount of mercury in an amalgam filling could be easily and accurately ascertained. This is important because about 85 per cent of the fillings placed in teeth are made of amalgam and one of the important keys to a good amalgam filling lies in the amount of mercury that is combined with the other metals in the filling. Never before has there been an accurate and quick method of measurement.

One other important working tool which has been provided through the generally improved program of research in dentistry has been the method of accurately determining minute quantities of fluorine in tooth structure.

While the results of the discoveries mentioned above were part of this biennium activities, the changes leading up to them have been gradual. It is hard in the period of one biennium to pinpoint the changes in attitude and objectives, but occasionally for the record they should be noted. The objectives of the dental school have gradually been changed from one of almost entirely involved in technical perfection to one which encompasses a more inclusive objective—the activities and future of the graduate program. This is more in line with the rounded objective of a University discipline. The School of Dentistry has had a profound maturing of ideals on University objectives rather than just technical perfection.

Building—During this biennium a building program has been under way which will provide much needed space for the teaching of dentistry. Three floors in the Owre-Jackson addition have been assigned to dentistry and the entire space is being developed to relieve the crowded conditions in the undergraduate teaching program. These crowded conditions have developed from two causes: expanded student body and the necessity of developing space to provide for research and graduate activities. In addition to the new space assigned to dentistry during this biennium in the Owre-Jackson addition, the space in Millard Hall formerly occupied by the Department of Physiological Chemistry for its teaching laboratory has been assigned to dentistry. At the close of the biennium this area is being converted into use for the programs for the dental hygienists and for the newly developed program for dental assistants. The students and personnel for the latter program have been living largely in the hallways of the dental school, but the urgency of the need for this program was so great that it could not wait for the space now being developed.

Louis W. and Maud Hill Family Foundation Professorship—It would be difficult to measure the importance of the impact of the establishment of this important professorship in basic dental investigation. The establishment of the Hill Professorship marks the recognition of the need for this kind of support by such an important philanthropic organization. It means that the need is not only recognized, but that the facilities of the school have been developed to such an extent that the school merits this kind of support.

The generosity of the Hill Family Foundation in establishing such an important position in the University is deeply appreciated, and it will be, indeed, a most profound stimulation in the field of basic research in dentistry. The recognition by the Hill Family Foundation of this kind of support indicates the growing maturity of dentistry in a field which has been too long neglected.

Results of the Fourth Decade Study of the Incidence of Dental Decay—In 1929 a study was made to determine the rate of increase or decrease of dental disease in a certain representative segment of the society. In that year the dental condition of all of the entering freshmen at the University of Minnesota was analyzed. This was a base line. In 1939, another careful analysis of the dental conditions of the entering students was made. It was found that the average student had approximately 7½ per cent more missing, filled and decayed teeth than those entering in 1929. In 1949, a third survey was made and again it was found there was approximately another 7½ increase in decayed, missing and filled teeth.

Last year the fourth survey of the entering students was conducted. In this last study it is found that there has been no significant change in the amount of decayed, missing and filled teeth. This very important finding is presented only as a fact and no attempt to attribute the abrupt arrest in the rate of increase of dental decay to any particular new discovery, treatment or procedure is intended.

It probably reflects an improved interest on the part of society in the care of one's health in general. Emphasis on oral hygiene could be an important factor. Dental educational programs in grade and high schools could

also be significantly responsible. Emphasis on these programs regarding the role of sugar in the cause of dental decay may have had its effect.

In 1937 it was discovered that noncarious teeth had more fluorine than teeth affected by decay. This discovery sparked a great deal of research resulting in widespread use of this decay preventative. Many, but not enough, communities have incorporated fluorine in their drinking water. The procedure is safe beyond doubt, and is the most effective way known to reduce dental decay. But for this effect to show on decay reduction in 18 and 19 year-old people, it will be necessary to wait a few more years since the fluorine must grow into the teeth when they are developing in very young children.

Whatever the cause, the arrest in the rate of increase in dental disease is a very significant finding of great economic and health values.

Curriculum—No significant changes have been made at the undergraduate level except those that one may expect as gradual improvement in course content and as a result of new discoveries learned through research here and at other schools. During the past 2 years the operating areas of the main clinic have been improved by changing the outdated units to modern units equipped with facilities for what is termed "high speed cutting operations." It has been learned here, and from other sources, the values of cutting tooth structure in cavity preparation which reduces the pain and discomfort to patients due to cutting instruments revolving at extremely high speed. Necessary changes in teaching procedures to accommodate these new discoveries have been made. Many new methods of cutting tooth structure have been investigated here, and the effects as related to injury to the tooth pulp and surrounding tissue have been very carefully studied and analyzed before changes have been made. The faculty has been alert, aggressive, and scientific in its approach to all these changes, but during the past 2 years the pace has been extremely rapid and as the new discoveries are made, they are incorporated into the curriculum.

Graduate Teaching—This biennium has shown an encouraging beginning of a new kind of a program for the development and training of research workers and teachers in dentistry. The Master's program with designation in dentistry has produced a very large number of well-qualified teachers in dentistry, but it has failed to produce many teachers who were also anxious to devote their time and interest to research. The new adventure in the field of higher learning provides the candidate with a Ph.D. with a major in a basic science and a minor in dentistry. It is anticipated that this new program, though long and arduous, will provide dental education with the kind of personnel that will be properly prepared with the working tools of research and yet will be better prepared in some clinical phase of dentistry at the same time. This program has obtained a great deal of momentum during this biennium and now many more candidates are enrolled than can be accommodated. It appears to provide the kind of personnel which will be qualified to investigate dental problems and stimulate significant interest in undergraduate teaching.

Future Space Needs—It would appear that with the additional space that will be acquired by dentistry from activities begun in this biennium that the pressing needs will be cared for for quite a few years to come unless demands are made to increase the enrollment significantly or add new programs in the School of Dentistry. Both of these ideas seem quite imminent. There are many indications that Minnesota is facing a very serious shortage of dentists and that there will be a great deal of pressure to increase the student body and to establish programs to relieve the need for dental services. Particularly important was a report by Nicholson-Kohn and Associates of St. Louis. They reported on dental population trends in a survey they made in which they had the following to say:

"One of the things we have to face is the fact that the average age of dentists in the country is probably over 50. I would like to cite the condition in Minnesota. In the state of Minnesota the average age of dentists at this time is 58 plus. One-half of the dentists in the state of Minnesota will not in all probability be in practice in ten years. These statistics, although extreme, are not tremendously different from many other states. At the present rate of production of dentists in the state of Minnesota, the ratio of

dentists to people in the state will go from 1 to 1,700 to 1 to 3,200 within six years, if they do not lose any of the students they train and if one out of three Minnesota students that go elsewhere to school come back to the state. But they are presently losing almost one-half of those they train."

The feeling is that the pressure to increase the size of the student body will come long before it is possible to do so even considering a new dental building which the University proposes to request in the 1969 legislature. The new facilities added to dentistry will do little more than relieve the over-congestion in present facilities and may make possible the admission of 120 students as compared with 108 at present. The added space has been utilized almost 100 per cent for undergraduate dental student training. It will provide office space for five full-time teachers. These are full-time teachers who now have desks in corners of crowded clinics or demonstration rooms. Since the Council on Dental Education's last visit to the school in 1942, 17 full-time teachers have been added and only a very few of them have their own offices in which they may do their studying, writing and consultation with students.

Staff Needs—As indicated above there are currently in training a few people who will be qualified to conduct fundamental research and who will be well trained in specific areas in dentistry. The school is probably quite adequately staffed at the present time to conduct the teaching responsibilities in the clinical phases of dentistry with the student-teacher ratio sufficiently strong to do this important teaching. However, the School does not have in the various divisions in dentistry, with but a few exceptions, personnel who are qualified to conduct research in the fundamental problems relating to these specific areas. Probably the most critical need for new positions is in the area of oral diagnosis and dental radiology. Radiology is being taught by one part-time teacher and oral diagnosis is being taught by one full-time teacher. This kind of coverage is what one could call very minimal for the important role that a profound understanding of these areas plays in dental practice. The personnel does not have time to study special cases of interest that come to the clinic, nor does it have time to use this kind of material to call special attention to it to the undergraduate and graduate students. The next urgent need for personnel is in the area of pedodontia. While the School does a very excellent job of teaching students the technical and restorative phases of dentistry for children, little is being done in the field of research or teaching preventive methods. In the fields of prosthetics, dental anatomy and crown and bridge work, there is a need for added staff to conduct research and bridge the gap between these clinical areas and the fundamental sciences.—W. H. CRAWFORD, *dean*

LAW SCHOOL

Enrollment—A temporary decrease in Law School enrollment to approximately 250 from a previous normal of around 350 has been caused by a combination of several factors: (1) The increase in admission requirements from 2 years of college to 3 or 4, (see 1958 biennial report) with most students now taking 4 years before entering Law School, resulted in the temporary loss of many students who formerly would have entered in 1958 or 1959 after 2 years of college. (2) Higher quality standards designed to deny admission to those with no reasonable prospect of success (see 1958 biennial report) reduced the first-year classes by eliminating approximately two-thirds of those who would have failed in their first year under earlier admission standards. (3) The gradual elimination of the 4-year law program (see 1958 biennial report) is causing a permanent reduction in the number of students in attendance, since the same number of aspirants for a law degree requires a student body 25 per cent smaller on a 3-year program as compared with a 4-year program. (4) In addition to these factors specially applicable to the Law School, a general decline in students continuing their education beyond 4 years of college has affected applications for admission to the Law School, just as it has affected applications for other advanced work.

Applications for admission in the fall of 1960 indicate a substantial upswing in enrollment of beginning law students, and the higher quality of these applicants justifies the prediction that within another 2 years the Law

School enrollment will be substantially larger, with a much larger percentage of the students successfully completing their program.

Quality of Students and Need for Financial Aids—Because the students now being admitted to the Law School have successfully completed 3 or 4 years of college, a better job of sifting them has already been performed by their colleges than was possible under the 2-year admission policy. In addition, the quality standards applied by the Law School have denied admission to the weaker students who predictably would have failed under previous looser admission standards. As a result, the student body has been substantially improved in quality by elimination of the weakest group of students. This increase in quality is reflected both in better classroom performance and progress and in a much lower failure rate than in previous years.

While the student body has been improved by eliminating the weakest students, there has been little increase in the number of outstanding, high-quality students. The Law School has always had a strong nucleus of good students, but many more such students would strengthen the school, set high standards for all students, and help to meet the demand from law firms for more graduates of outstanding ability. To meet this need for more outstanding students, the dean and the assistant dean visited most of the colleges in Minnesota in 1959-60. Their primary purpose was to attract to the University Law School high quality students considering the study of law. It became apparent on these visits that several good law schools from outside Minnesota were doing an effective recruiting job, attracting some of the most able young men and women to leave Minnesota to study law elsewhere. High scholarship aids were a major factor in this successful recruiting from outside. To help meet this competition, the Law School engaged in the spring of 1960 in an intensive program to increase its scholarship aids by seeking scholarships on an annual basis from alumni, law firms, lawyers, and corporations with legal departments. That program is not yet complete, but it has resulted in more than doubling the available scholarship funds for the year 1960-61. As a consequence the Law School was able to offer \$500 scholarships for 1960-61 to approximately 20 highly promising first-year students with financial need, and most of those to whom scholarships were tendered chose to come to Minnesota rather than to go elsewhere. The result appears to be that a much stronger first-year class will enter the Law School in the fall of 1960 than in any previous years.

In future years, continuous and effective recruiting techniques must be used to keep the most able law students in Minnesota, backed by increases in student financial aids. The University of Minnesota Law Alumni Association has helped this recruiting by financing the publication of a brochure, *Your Career in Law*, which will be used extensively by the Law School in advising young people in the next few years.

Increases in financial aids are also important for the average students, who have just as great financial need as the high-ranking students. The increased maturity of students, coupled with the earlier marriage age, has created serious financial problems for students, who cannot engage in gainful employment many hours per week without sacrificing the quality of their law studies. A substantial increase in student use of loan funds has resulted during the last biennium, and additional sources for loan funds must be found if this essential financial aid is to be continued.

Instructional Developments and Size of Faculty—Within the limits of its resources, the Law School has moved ahead during the biennium in its effort to provide students with the individual and small-group instruction needed to train lawyers to grapple adequately with problems—the primary aim of law training. For 3 years it has taught 2 of the 9 first-year courses in 3 sections each, thereby giving to each first-year student the advantages of taking 2 courses in classes of approximately 30. Another first-year class is taught in 2 sections of 45 students. In 1959-60 for the first time the Law School gave each first-year student individualized instruction in research and writing. This was made possible by appointing as part-time instructors recent high-ranking graduates, former *Law Review* officers now practicing law in the Twin Cities, who gave attention to the individual needs of a small group of

students through repeated private conferences and criticism. Also in 1959-60 for the first time each second-year student received individual instruction in legal research and writing from a regular faculty member, who directed 3 or 4 students in individual research projects designed to give all second-year students some of the advantages of the highly intensive training received by students on the *Minnesota Law Review* staff. This year, also, an increased number of students took more than the single required seminar, thereby gaining the advantage of intensive group work on legal problems in a limited area under the guidance of a professor.

Such small group and individualized attention was made easier because of the fairly low first-year enrollment during the past 2 years, reducing the size this year of the second-year class as well. But with a substantial increase in the first-year class in September, 1960, and fewer failures because of higher quality, it will not be long before an increase in the size of the faculty will be essential in order to retain the significant advantages of this important instruction in small sections, seminars, and individualized criticism and instruction in legal research and writing.

Since all effective law teaching is by the discussion and problem method, which requires individual problem-solving, it is important to expand rather than to contract the use of relatively small sections. It would be advisable to teach more than two of the first-year courses through small sections, and to expand the sectioning technique into some of the second- and third-year courses. Fully adequate training in law cannot be given to the average student in large classes of 100 to 150 students. In such classes only the more aggressive students gain the full advantage of the very important discussion and problem method of teaching. It is impossible for the instructor in such large classes to "bring out" the students who tend to hold back and let others do their thinking and talking for them. Yet these are the very students who need this kind of instruction the most. For these reasons, it is important that the Law School faculty increase as the student body increases in order to perform its task satisfactorily.

Faculty Salaries and Loss of Faculty—Continued improvements in faculty salaries has enabled the Law School to retain its relative salary position, but it has not been able to equal the salary structure of the law schools with which it competes for high quality staff. The Law School will continue to lose able young faculty members after they are at Minnesota for a few years until the salary and retirement structure becomes fairly comparable to the competing law schools.—WILLIAM B. LOCKHART, *dean*

COLLEGE OF PHARMACY

Undergraduate Enrollment—Undergraduate enrollment in the College suffered considerably upon institution of a 5-year curriculum for the bachelor of science in pharmacy degree in 1954 at a time when most of the colleges of pharmacy in the country were granting the same degree on the basis of a 4-year curriculum. Through actions taken by the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy, a 5-year curriculum for the degree becomes mandatory in all accredited colleges of pharmacy in 1960. This change will be reflected in the number of students enrolling in the College for the next academic year. With 51 new students already accepted (July 15, 1960), a fall quarter enrollment greater than 160 students is anticipated.

Year	Summer Session				
	I	II	Fall	Winter	Spring
1958-59	5	3	127	121	118
1959-60	10	12	135	133	128

Graduate Enrollment—Graduate degree programs are now being offered in all four of the College's professional departments. A graduate program in pharmaceutical technology was approved by the Graduate School early in the biennium and the first degree was awarded to a student with major study in

this department in the spring of 1960. The distribution of students by departments, as of the fall quarter, follows:

Year	Pharmaceutical Technology	Pharmaceutical Chemistry	Pharmacognosy	Pharmacology
1958-59	3	10	1	3
1959-60	5	15	1*	4

* Preparation of thesis only

Degrees Conferred

Year	B.S. in Pharmacy	M.S.	Ph.D.
1958-59	24	.....	.....
1959-60	20	.....	1

Curriculum—During the past biennium, all colleges of pharmacy have been planning a 5-year curriculum that will replace the 4-year curriculum formerly required for the B.S. in Pharm. degree. The faculty has kept closely abreast of the changes through active participation in the work of the American Association of Colleges of Pharmacy Committee on Curriculum and Committee on Educational and Membership Standards. The average curriculum for 43 colleges consists of the following number of credits distributed as shown among subject areas (figures for the University of Minnesota College of Pharmacy are given in parentheses): total number of credits in semester hours = 163 (159), general education = 11.5 per cent (7.5 per cent), electives = 11.5 per cent (11.0 per cent), mathematics and basic physical sciences = 24.5 per cent (23.0 per cent), basic biological sciences = 13.0 per cent (13.0 per cent), professional studies = 39.5 per cent (45.5 per cent).

Physical Plant—The remodeling of Appleby Hall commenced in December, 1959. The new quarters should be ready for the College's occupancy in the early part of the 1960-61 academic year. The quarters in Appleby Hall will provide approximately 1.8 times the assignable floor space that the College has had in Wulling Hall. The present greenhouse adjacent to Wulling Hall will still be employed especially for the collection of medicinal plants. In order to service the greenhouse, approximately 1200 sq. ft. of laboratory space in the basement of Wulling Hall has been retained by the College. In order to meet the demands of expanding instructional and research programs in the Department of Pharmacognosy, about 1400 sq. ft. of greenhouse space on the St. Paul Campus has been assigned to the College.

The new quarters will provide office and laboratory space for the staff and space for graduate instruction and research that have for many years been urgently needed by the College. In addition, the following items that have been essentially lacking will be provided: pharmaceutical manufacturing laboratory, animal quarters, radioisotopes laboratory, instrumental analysis laboratory, etc.

A major part of the costs of the construction work was supplied by the State and the University. A sizable grant was received from the United States Public Health Service for construction of research facilities and notice has been received of a supplementary grant for equipment that will be made in 1961 if the expected Federal appropriation is realized. Adequate facilities could not have been financed, however, without contributions from the pharmacy profession and the pharmaceutical industry and the use for construction purposes of funds that had for many years been conserved by the faculty for purchase of equipment for the new facilities.

The pending supplementary grant from the Public Health Service and private contributions have restored, in part, the equipment funds. Nevertheless, approximately \$28,000 of the funds used for construction and now required for necessary equipment have not yet been recovered. These funds plus additional funds for construction that could not be financed in the present remodeling work are urgently needed.

Library—The collection was expanded by the addition of 483 new books and periodicals to 7,791 items as of June 30, 1960. A microfilm reader has been procured and a microfilm collection has been started. A special effort has been

made to update the collection of drug information sources that is most necessary in handling numerous inquiries from members of the pharmacy profession and other health professions as well as inquiries from students and the public.

A project involving documentation of information on new drug products for punched card manipulations has been undertaken.

Staff Service—The faculty regularly received and answered numerous requests for advice and information about drug products for the benefit of the public and members of the health professions, especially the pharmacists of the State of Minnesota.

Several members were called upon for consultation, testimony, and service as expert witnesses in legislative hearings on a bill related to the practice of pharmacy, and in litigation procedures involving the Minnesota State Board of Pharmacy. They also served in consulting capacities in dealing with problems related to the manufacture of pharmaceuticals and pharmaceutical services in hospitals.—GEORGE P. HAGER, *dean*

COLLEGE OF EDUCATION

The 1958-60 biennium in the College of Education has been a time of marked activity in research, writing, service, and instruction.

Research—During the past biennium, research projects of the College of Education supported by the Federal Office of Education, various foundations, and the Graduate School, totaling well over a million dollars, have been completed or started by the faculty.

The *Minnesota Teacher Attitude Inventory*, designed to select teachers with the personality characteristics essential to effective teaching at elementary and secondary levels and used widely in English-speaking countries throughout the world, has been translated into Spanish (for use in South America) and into Japanese. Research in this area is continuing in a 12-year study of the students of the College of Education to determine the personality characteristics and academic abilities of students who ultimately are recognized as master teachers. Teachers in over 30 different specialized fields are being studied. The Nobles County, Minnesota study to determine the childhood, educational, family and community experiences which influence behavior in adult life has been completed. Another important study emphasizes the identification of the unusually creative child, and attempts to determine the environmental factors which encourage the development of creative ability. Research on the educational values of closed-circuit television has received support from the Federal Office of Education to the extent of more than a quarter of a million dollars.

Other research underway in the College deals with parental attitudes toward the mentally handicapped, maladjusted boys, factors which influence learning, the effectiveness of the interview in the selection of teachers, social interaction in the classroom, homemaking practices for visually handicapped persons, and procedures for overcoming the learning handicaps of deaf children.

Keeping Minnesota's Schools Alert to Modern Practices—In order that the school board members, the teachers, and the administrative officers of the school districts of Minnesota may be kept up to date in their knowledge of new educational procedures and improved educational facilities, the College of Education sponsors each year more than 25 special conferences, workshops and symposia. Among such meetings is the annual University Short Course and Schoolmen's Week designed for the school superintendents, principals and supervisors of Minnesota. Other annual meetings for special groups serve the elementary and high school principals of the state, the teachers of science, mathematics, English, language arts, foreign languages, reading, home economics, vocational agriculture, business and distributive education, industrial arts, social studies, history, music, physical education and the fine arts.

In addition to these regular meetings, during the past biennium, several special conferences and workshops were provided. For example, in 1960, the Minnesota Wing of the Air Force Association and the Civil Air Patrol financed a symposium entitled "The Creative Challenge to Man in the Space Age." This symposium was devoted to a study of the social changes that may take place in the next few years as a result of the extensive research programs in the development of missiles and space exploration. Distinguished social scientists throughout the United States participated. Another development was the organization of the School Facilities Council, including leading architects, industrialists, business leaders and educators of the state. Its purpose is to insure the most adequate buildings and facilities for Minnesota schools that the communities can afford. The first conference, held in 1960, brought to Minnesota outstanding national specialists in school buildings and facilities. A national symposium on educational research, co-sponsored by Phi Delta Kappa, attracted leading statisticians, and research workers from major universities of the nation. Other special conferences were held for presidents and deans of colleges for teacher education, directors of teacher education, directors of student teaching, and directors of student personnel services. One important conference in 1960 dealt with the subject matter preparation of elementary and secondary teachers and involved the contributions of leading specialists from academic fields. A conference on Middle Eastern Affairs was held in 1960, sponsored by the Minnesota Council on Social Studies and the Middle East Foundation. Other conferences centered on the core curriculum, the education of the gifted, high school counseling, problems of beginning teachers, supervision, and adult education.

Service to the Schools of the State—The College of Education has for many years accepted the philosophy that the problems of any school system in the state are the problems of the University. During 1948-49, the Bureau of Field Studies and Surveys was established in the College of Education to serve the school districts of the state. Since that time, the Bureau has completed over 200 school surveys.

During the past biennium, the Bureau of Field Studies and Surveys has completed 39 major school survey projects. Each involved the gathering and evaluation of extensive data and the formulation and preparation of detailed summary survey reports and the presentation of the findings and recommendations to the local board of education and to the public. The year 1960 established a new peak in Bureau activity. Surveys were completed in 21 Minnesota schools (Bakus, Benson, Bloomington, Breckenridge, Earle Brown, Carleton, Cass County Unorganized Territory, Cass Lake, Crookston, Deer River, Forest Lake, Isle, Lake County, Minnetonka, New Ulm, Remer, Rosemount, Wadena, Watertown, Windom, Wrenshall). An extensive school district reorganization study was made for Brown County, South Dakota.

A 2-year statewide survey of public education in Kansas from kindergarten through the University, financed by the Kansas State Legislature (\$134,000) was completed in 1960.

Placement of Teachers—The major responsibility of the College of Education to the schools of Minnesota is the preparation of highly qualified teachers and counselors, school psychologists, principals, superintendents and supervisors. Since World War II, the enrollment of undergraduate and graduate students has increased over 300 per cent. During each of the past few years, the College has graduated approximately 1,000 teachers with B.S. degrees, 250 with Master's degrees, and 50 with doctor of philosophy degrees. A continuing high demand for elementary and secondary teachers and a strongly developing demand for college personnel is reflected in recent activity of the Bureau of Recommendations. The volume of the Bureau has more than doubled in the past five years, with the greatest increase coming during the past biennium. The number of requests for specified personnel in 1960 will exceed the 20,000 mark. Registrants for 1960 are already in excess of the total registration for 1959, and the estimated number of persons cleared during the 1959-60 academic year is 2,250. The number of vacancies serviced by the Bureau during the past biennium is about 10 vacancies to 1 candidate available for consideration.

Curriculum and Program Developments in the College of Education—The current high level of national interest in human resources and the identification and development of talent is reflected in the accelerated interest of school staff in the course offerings and services of educational psychology. During the past 2 years a marked increase is noted in the number of full-time and part-time students enrolled in academic work in the areas of measurement and testing, statistics, psychology of learning, personality development, mental hygiene, counseling and general guidance courses. Particularly noted is the increase in graduate level students in such fields of specialization as educational psychology, secondary school counseling, school psychology, college student personnel work, special education, and remedial instruction.

Grants in excess of \$350,000 have been received by the department for the period 1959-61, under provisions of the National Defense Education Act for extension of the program for graduate students in secondary school counselor preparation. Approximately 225 graduate students will have participated in this special program in counseling institutes by the end of 1960-61. Temporary staff additions, including from 6 to 10 instructors each year, have been possible under this subsidized program. Enrollments of graduate students in the regular nonsubsidized program of counselor preparation have been similarly stimulated with more than 200 students enrolled in the M.A. and Ph.D. programs for counselors.

Curriculum changes in the College are constant. This is especially true in vocational areas: trade and industrial education, business and distributive education, vocational agriculture, and vocational home economics. Technological changes are so rapid that in each of these areas, several conferences with the teachers of the state are held each year to bring them up to date with modern advances in the field. For example, a complete change in the trade and industry curriculum has been under way for the past 2 years. It has been published as "The Minnesota Plan." Automation, electronics, and other developments in industry have reached the point where the traditional industrial education curriculum is completely outmoded. The new curriculum is based on sound preparation in physics, chemistry, mathematics and the art of design. High school students are now interested in hi-fi equipment, radios, television, metal work, computing machines, and automatic machinery. Changes in the other vocational areas are equally striking.

Co-operation with the other colleges of the University, long basic to the training of teachers in the College of Education, has resulted recently in some important new programs and improved curriculums: (1) the College of Science, Literature, and the Arts and the College of Education have undertaken a joint registration plan, under which a prospective teacher may work toward the B.A. and B.S. degrees concurrently, meeting the requirements of both colleges; (2) the Mathematics Department of the College of Science, Literature and the Arts and the College of Education have just announced a new Master of Education program with a major in mathematics, expected to be widely useful for improving the training of mathematics teachers now in the secondary schools; (3) the Institute of Technology and the College of Education have joined in a 5-year program for prospective secondary school teachers of mathematics, chemistry and physics, leading to the Bachelor's degree from the Institute and the master of education degree from the College of Education at the end of 5 years; (4) the program for prospective elementary school teachers has been strengthened through additional requirements in science and mathematics; and (5) all social science departments of the College of Science, Literature, and the Arts have worked with the College of Education faculty on replanning major requirements for teachers in the social science fields, with realignment and strengthening of these majors for prospective teachers in the secondary schools. The Minnesota State Legislature has made possible the development of the Division of Special Education at the University which is unequalled by any other university of the nation. The programs for teachers of the mentally handicapped, the gifted, the crippled and the emotionally disturbed have been offered for some time. During the past year, staff has been employed and curriculums established for the education of teachers for the blind and for the deaf. Fellowship grants from the American Foundation for the Blind total \$10,000 each year. The Federal Gov-

ernment is making substantial grants for research and fellowships in the area of retarded children. The National Institute of Mental Health has granted the College of Education \$250,000 over a period of 5 years for fellowships and staff in its new program in school psychology.

The program for the preparation of school administrators, including superintendents, secondary school principals and elementary school principals, has been completely revised during the past year. This revision has been under way for some time, but its completion this year was stimulated by the fact that the American Association of School Administrators has decreed that after 1964, it will require 2 years of graduate work in an approved program for membership in the organization. At present, the National Council for the Accreditation of Teacher Education has been selected as the accrediting agency for such graduate programs. The present plans are to limit the number of colleges of education accredited for preparing school administrators to not more than 40 for the entire United States. The number of school superintendencies in the United States is decreasing gradually. The object is to insure only the highest level of talent and preparation for such positions.

The graduate program for the Institute of Child Development and Welfare has been completely revised in terms of new developments in research in the area of child development. One of the outstanding developments in the past decade in the already rapidly developing field of psychology has been the amazing growth of interest in child psychology. New positions have opened up faster than candidates have been trained, and new programs have been organized throughout the country to provide strong competition in recruiting both staff and graduate students. Minnesota does not yet have a staff to provide adequate coverage in child psychology. There are definite weaknesses in the areas of perceptual development, physiological aspects of child development, adolescent development and infant development. Although the Institute now attracts students from a wide area and has attracted thousands of dollars for their research program, its research potential must continue to develop.

Building Needs of the College of Education—The Trade and Industrial Arts Department, one of the strongest departments in the nation, which has full graduate status and has supplied an overwhelming proportion of the Ph.D. teachers in the Industrial Arts departments of Minnesota and Wisconsin, is housed in a temporary building constructed after World War II. Laboratories are completely inadequate. Many courses must be offered in the evening in the workshops and laboratories of the high schools of Minneapolis. Other needed courses cannot be offered at all. Among the state-supported institutions of Minnesota, the University is the only institution without an adequate industrial arts building.

The University Elementary School, the Division of Special Education, the School Psychology Program and the Psycho-Educational Clinic are all housed in Pattee Hall, which was designed to house the Law School. Space is completely inadequate. Only two of the elementary classrooms are large enough to accommodate demonstration teaching for college classes. As a result, the elementary school serves the College at about one-third its potential. Special Education, including programs for the gifted, the retarded, the crippled, the emotionally disturbed, the palsied, the deaf, the blind, all are housed in basement rooms. The office of the Chairman of Special Education is a former storeroom. When the new University Elementary School is built, space must be provided for classes in Special Education, for the Psycho-Educational Clinic, and for the program for School Psychologists.

Norris Gymnasium, which houses the Department of Women's Physical Education, was built over 30 years ago when the enrollment of the University was less than half what it is today. Space is completely inadequate for a modern program. Offices for the staff are found in former storerooms, at the end of halls, and in the basement. Adequate facilities for Physical Education for Women must be given high priority.

Offices in Burton Hall are housing from two to four staff members each. Additional office and research space for the faculty must be found in buildings yet to be planned.

Staff Needs of the College of Education—Enrollments in the Elementary Education Program have increased 12-fold since World War II. The faculty size has only doubled. Three additional faculty positions are desperately needed.

Within the past 5 years the program for the preparation of high school counselors has more than doubled. Two additional staff members should be added at the earliest opportunity.

Administrative Reorganization of the College of Education—The Dean of the College of Education serves as head of the General Education Department, which includes Educational Administration, Elementary Education, Secondary Education, History and Philosophy of Education, and the unusually large division of Educational Psychology, including Counselor Training, Special Education and School Psychology. The organization of these various divisions into departments with responsible, qualified department heads, adequate space, and clerical assistance, should be accomplished at the first opportunity. An administrative head for Educational Psychology has first priority.—WALTER W. COOK, *dean*

Department of Physical Education for Women

In addition to maintaining responsibility for the normal instructional function of the department, the past biennium was marked by special emphasis in the areas of instructional improvement, revision of the recreational program, and strengthening of both the undergraduate and graduate professional programs.

Instructional Program—A survey of 363 University freshman women studying their experiences, interests and needs as related to physical education activities was completed.

A study of the improvement in facilities for the teaching of individual sports was undertaken.

The use of teaching aids in individual sports was the subject of wide experimentation.

Recreational Programs—The constitution of the Women's Athletic Association was revised in terms of job descriptions of various leadership positions and in the evaluation form for the "Seal," top award in the Women's Athletic Association.

The recreational program was strengthened to meet changing interests, and representatives participated in three college play days of the Athletic Federation of College Women, Minnesota state conference and in the national convention of college women's groups which was held in Oregon.

Professional Undergraduate Program—Background science requirements were strengthened, and more emphasis was placed on functional exercise as well as methods of teaching. The Department co-operated with the Minneapolis Public Schools both through senior job conferences and a development of a guide for demonstration teachers.

Professional Graduate Program—The professional graduate program was enlarged in scope by the addition of requirements related to the exceptional child. Further seminar programs were inaugurated and a handbook for graduate students was developed.—GERTRUDE M. BAKER, *director*

Institute of Child Development and Welfare

During the past 2 years the major developments have been in the teaching and research programs of the Institute.

The curriculum of the Institute was very thoroughly examined and re-organized with a view of providing more balanced offerings in areas not previously dealt with adequately. Several courses were eliminated, the departmental requirements for the B.A. degree were modified, and several new courses were introduced. The areas of experimental child psychology, per-

sonality and social development, and preschool training have been strengthened.

The number of undergraduate majors in the College of Science, Literature, and the Arts has increased and a serious effort has been made to increase the number and quality of graduate students. Five Ph.D. and 12 M.A. degrees were awarded, and a total of 3,711 students were enrolled in Child Development courses. A training grant from NIMH for research in child psychology has provided fellowships for several outstanding students a year.

The nursery school has been more closely integrated with the teaching and research of the Institute. A new M.A. program for training nursery school teachers was initiated in an effort to recapture the leading role the Institute once had in this area. Enrollment for the nursery school for the 2 years totaled 181 children.

The Parent Consultation Service has been strengthened, and closer relations between the Parent Consultation Service and the clinical child psychology program have been developed. The emphasis of the Service has been changed from primarily a service orientation to one of training and research. During the biennium, 127 children and their parents were seen for testing and consultation.

The Institute has maintained an active Parent Education program. A national conference of leading persons in the field was held, and a new series of workshops for P.T.A. workers was introduced. A total of 555 persons were enrolled in the P.T.A. workshops in three Minnesota cities, and 26 parent study groups in child development were organized with 122 meetings. A total of 339 talks were given by staff members to professional and parent groups.

Seven major research projects, supported by NIMH, NSF, U.S. Office of Education, and the U.S. Army, totaling \$249,000 have been in operation. Including those resulting from these grants, a total of 58 studies have been completed. As a reflection of the better balance of staff interests, the research covers the areas of child psychology and child development more broadly than has been the case in the previous few years.—HAROLD W. STEVENSON, *director*

SCHOOL OF BUSINESS ADMINISTRATION

The biennium just closed was marked by further critical examination of the curriculum of the School of Business Administration, with a significant trend toward more limited specialization at the undergraduate level, and greater emphasis on research and high level teaching at the graduate level. Another significant step forward was taken when the Graduate School approved a program for offering work leading to the Master's degree through courses taken entirely in the evening. This will be under the joint auspices of the School of Business Administration and the Extension Division.

Research activities were sharply increased in the School of Business Administration during the past biennium. The largest project was the Upper Midwest Economic Survey. This is a project headquartered at the School of Business Administration, and financed to an amount which may exceed \$700,000, by about equal parts in a grant from the Ford Foundation, and by contributions from interested businessmen in the Upper Midwest. This research project is expected to extend through the next 3 years.

The Small Business Administration has made a grant to the School of Business Administration to conduct research in various aspects of small business management to assist our regional economy. This includes certain aspects of the effects of the St. Lawrence Seaway.

A research and service project in the field of workers' and management education was begun in the Industrial Relations Center under a grant from the 1959 Legislature. This will carry training opportunities out into the state by the use of local talent under the guidance and training of the staff of the Industrial Relations Center.

The School of Business Administration was fortunate to be well represented in fellowships granted by the Ford Foundation. These included a faculty research fellowship in each year, as well as a doctoral and predoctoral fellowship each year. Two of the faculty members received fellowships in a special 1-year project in basic mathematics for business faculty members,

sponsored by the Ford Foundation and conducted at Harvard University. Each year one of the faculty members attended a Summer Session Seminar on the Case Method as presented at Harvard University.

In addition to fellowships earned by the faculty, students had additional opportunities open to them by scholarships from various sources. These included scholarships from the New York Life Insurance Company and from the united insurance companies in Minnesota. In addition, the Ford Foundation made a grant for establishing certain workshops in economics which included several graduate fellowships to encourage the recruitment of teachers in this field. Under the National Defense Education Act, 5 graduate fellowships to run for 3 years were granted to the Department of Business Administration in 1959-60, and six were announced in Economics for 1960-61.

Collegiate education for business came under severe criticism in two reports published in the fall of 1959 under the auspices of the Ford Foundation and the Carnegie Corporation. The reports have been under careful review by the faculty, with an eye to adopting such recommendations as are not already in force, and which are relevant to local responsibilities. With the aid of a grant from the Ford Foundation a symposium was held on the campus in February of 1960, to which interested businessmen and faculty members from colleges and universities in an eight state area were invited to review the criticisms of collegiate education for business, and consider appropriate remedies.

Plans for the new building for the School of Business Administration have been under extensive development, and reached a point where the architects could be given the distillation of many suggestions and recommendations. The School is looking forward to greatly improved morale and working conditions after the move across the river some 2 years hence.

Enrollment in the School of Business Administration declined in each of the 2 years of the biennium, contrary to expectations. This movement in enrollment is part of a puzzling pattern which extended across the country in a majority of the schools of business administration, and in other technical schools. There is evidence in some of the data in the spring quarter that this trend will be reversed, although somewhat slowly, beginning next fall.

A review was undertaken of the results of the first 3 years under a new form of organization of the faculty within the School of Business Administration. No recommendations or modifications were made at this time, pending the arrival of Dean Paul V. Grambsch of Tulane University.—RICHARD L. KOZELKA, *dean*

GRADUATE SCHOOL

General—The biennial report usually calls attention to new programs and developments, but it is well to remember that these by no means present a comprehensive picture of the far-ranging educational and research enterprise that comprises the Graduate School. Any 2-year period is marked by changes, new ideas, and experimentation, but meanwhile graduate work goes forward at the University of Minnesota in more than a hundred fields offering the Ph.D. and in still more areas for which the Master's degree in its different varieties is awarded. At the same time faculty researches are proceeding with support from graduate research funds, and in many cases new support is elicited from sources outside the University. The role of the Graduate School is to forward education at a high level, with genuine graduate standards throughout; to train men and women for teaching and research and for professional service in diverse fields; and to encourage and support faculty research and creative work throughout the entire University. The Graduate School functions within the limits of its funds, but also in the even more important sphere of intellectual and moral support, with emphasis on the maintenance of a climate of freedom and constructive encouragement to creative scholarship.

The biennium 1958-60 has been one of advance along many lines; large enrollments, even though predictions of extraordinary increases were not achieved; devoted, sustained effort by the graduate faculty, committees, and hard-working staff. Appraisal of results within the shadow of the biennium is a complex and difficult matter because a graduate school works for funda-

mental and long-ranging results, the true value of which often cannot be fairly gauged save after a longer period. But it is possible to present a compact review of the 2 years with a short perspective, and this, the present report attempts.

Enrollment and Degrees Granted—A full description of the work in graduate study requires information not only for the academic year but for Summer Session. The details of the enrollment picture for the Graduate School are presented in Table I. For the biennium being reviewed there were 6,581 graduate students in 1958-59, 7,049 in 1959-60. These figures are compared with values of 5,736 in 1956-57 and 5,921 in 1957-58. These numbers give an accurate picture of the continuing substantial growth of the Graduate School to levels which each year have exceeded any totals for preceding years. The enrollment for the academic year only for 1958-59 is 4,557 and for 1959-60 is 4,715. These compare with figures for the preceding biennium of 3,649 for 1956-57 and 4,028 for 1957-58. Again the pattern of steady growth of the Graduate School is reflected.

In 1958-59, 804 Master's degrees and 240 Ph.D. degrees were granted—a total of 1,044 advanced degrees. The figures for 1959-60 were 840 Master's degrees and 245 Ph.D. degrees—a total of 1,085. In Table II these figures are detailed in relation to the broad areas in which degrees have been sought and earned. The increase in the number of Master's degrees over the previous biennium amounts to 72, or 4.6 per cent; for Ph.D.'s, the increase is 26, or 5.7 per cent. The proportion of Ph.D. degrees in relation to the total number of graduate degrees granted has remained virtually constant (22.78 per cent as compared with 22.59 per cent for 1956-58).

Through June 1960, the University has granted, in all its history, 22,241 graduate degrees—4,623 Ph.D. degrees and 17,618 Master's. During the two decades, 1940-60, 3,219 Ph.D. degrees were awarded (69.63 per cent of the total Minnesota Ph.D.'s) and 12,850 Master's degrees (72.94 per cent of the total Minnesota Master's). This is a grand total of 16,034 graduate degrees for 1940-60, or 72.09 per cent of all the graduate degrees awarded by the University of Minnesota. These figures throw light on the busy activities of the faculty, graduate committees, and the central office of the Graduate School through these turbulent 20 years.

Table III presents a total picture of the geographic origin of the graduate students in 1958-60, and here it should be noted that as in preceding biennia, the Graduate School drew students from a very large area. The proportion of students who are native to Minnesota shows little change: more than half the students came from Minnesota and about one tenth from the economic area adjacent to Minnesota, a little more than one fifth from other parts of the United States, and close to one seventh from other countries of the world. Thus, in the grand totals, 63.79 per cent of the graduate students were from Minnesota and its neighboring areas.

There was a considerable increase of foreign students, resulting from both the international repute of the Graduate School and the larger factor of grow-

TABLE I—GRADUATE SCHOOL STUDENTS IN RESIDENCE DURING THE YEARS 1958-59 AND 1959-60

Classification	1958-59			1959-60		
	Men	Women	Total	Men	Women	Total
Fall, Winter, and/or Spring	2652	556	3208	2669	549	3218
Summer Session Only	1007	393	1400	1223	431	1654
Both Fall, Winter, Spring and Summer Session	1156	193	1349	1269	228	1497
Mayo Foundation	607	17	624	667	13	680
Totals	5422	1159	6581	5828	1221	7049
Totals, Academic Year (exclusive of Mayo)	3808	749	4557	3938	777	4715
Total Individuals in Two Summer Terms, less duplicates (exclusive of Mayo)	2163	586	2749	2492	659	3066

ing leadership of American education in the world. It is highly interesting to note that about 75 countries were represented among the foreign students in each year of the biennium, and that from each of 10 countries came 20 or more students. In 1959-60, a very considerable number came from the Asiatic countries (467); from Europe (176); a considerable number from immediate neighbors and particularly Canada (164); and lesser numbers from Latin America, the Middle East, Africa, and Oceania. While the total numbers of foreign students are large, Minnesota's experience does not differ from that of other state universities; many graduate schools are experiencing the same upsurge in enrollment of students from foreign lands. Several of the Middle Western state universities have received more than Minnesota.

Program Planning—Through the years the Graduate School has greatly expanded in its programs for higher degrees, but no biennium fails to bring about further changes. The co-operative plan for a Ph.D. in classics, mentioned 2 years ago as a proposal that had been approved by Minnesota, Wisconsin, and Iowa, has now reached the stage of actuality with the aid of a grant

TABLE II—DEGREES SOUGHT AND OBTAINED BY STUDENTS REGISTERED IN THE GRADUATE SCHOOL 1958-59 AND 1959-60

	Number Degrees		Master's Degrees		Ph.D. Degrees		Total Degrees	
	Sought		Sought	Obtained	Sought	Obtained	Sought	Obtained
1958-59								
Agricultural Science	16	263	86	210	41	473	127	
Biological Science	36	37	9	29	7	66	16	
Education								
Minneapolis Campus	245	1427 ^a	257 ^b	378	67	1805	324	
Duluth Campus		104	24			104	24	
Language and Literature	30	300	39	135	18	435	57	
Medical Science								
Minneapolis Campus	122	311	11	221	12	532	23	
Rochester Campus	17	580	59	15	1	595	60	
Physical Science	23	569	136	337	54	906	190	
Social Science	40	774	159	235	37	1009	196	
Other								
Minneapolis Campus	2	72	21	41	3	113	24	
Rochester Campus		12	3			12	3	
Minneapolis Total	514	3753	718	1586	239	5339	957	
Duluth Total		104	24			104	24	
Rochester Total	17	592	62	15	1	607	63	
GRAND TOTAL	531	4449 ^a	804 ^b	1601	240	6050	1044	
1959-60								
Agricultural Science	18	237	63	242	45	479	108	
Biological Science	29	42	10	33	6	75	16	
Education								
Minneapolis Campus	255	1508 ^c	285 ^d	429	58	1937	343	
Duluth Campus	8	128	16			128	16	
Language and Literature	24	308	61	137	23	445	84	
Medical Science								
Minneapolis Campus	143	335	28	263	16	598	44	
Rochester Campus	20	637	38	12		649	38	
Physical Science	26	652	133	332	59	984	192	
Social Science	22	808	191	266	31	1074	222	
Other								
Minneapolis Campus	4	73	13	47	7	120	20	
Rochester Campus		11	2			11	2	
Minneapolis Total	521	3963	784	1749	245	5712	1029	
Duluth Total	8	128	16			128	16	
Rochester Total	20	648	40	12		660	40	
GRAND TOTAL	549	4739 ^c	840 ^d	1761	245	6500	1085	

^a Included are 24 students seeking the certificate of Specialist in Education.

^b Included are 4 students who received the certificate of Specialist in Education.

^c Included are 49 students seeking the certificate of Specialist in Education.

^d Included are 8 students who received the certificate of Specialist in Education.

under the National Defense Education Act. The program will be initiated in the fall of 1960. A new Ph.D. program in hospital administration has been approved under dual advisership in co-operation with various departments in the social sciences. Plans for an evening program for the master of business administration have been worked out, and a start will be made in 1960 on the basis of a 5-year experimental period. Other developments include a master of science program in medical technology, a Ph.D. minor in industrial relations, and a Master's plan in which graduate students majoring in such areas as child development and welfare, educational psychology, sociology, and home economics may give special emphasis to marriage and family studies.

Graduate Fellowships and Assistantships—Six Woodrow Wilson National Fellows elected the University of Minnesota for their initial year of graduate study in 1958-59, and the number of new Woodrow Wilson Fellows for 1959-60 rose to 21—the largest increase for any university. The distribution by major field of the 27 fellows for the biennium was as follows: American studies, 2; botany, 1; economics, 1; English, 7; history, 5; mathematics, 1; physical chemistry, 1; political science, 3; psychology, 3; Romance languages, 2; and sociology, 1.

Through subventions from the Woodrow Wilson National Foundation, in relation to the number of fellows in attendance, the Graduate School was

TABLE III—GEOGRAPHIC ORIGIN OF STUDENTS REGISTERED
IN THE GRADUATE SCHOOL

Group Committee	Minnesota Residents	Economic Area	Other		Total Number of Students
			United States	Foreign	
1958-59					
Agricultural Science	176	53	130	130	489
Biological Science	47	16	33	6	102
Education					
Minneapolis Campus	1545	228	212	65	2050
Duluth Campus	88	14	2		104
Language and Literature	266	42	113	44	465
Medical Science					
Minneapolis Campus	261	63	180	150	654
Rochester Campus	72	73	320	147	612
Physical Science	422	88	180	239	929
Social Science	604	103	148	194	1049
Other					
Minneapolis Campus	62	8	32	13	115
Rochester Campus	1	2	9		12
Minneapolis Total	3383	601	1028	841	5853
Duluth Total	88	14	2		104
Rochester Total	73	75	329	147	624
GRAND TOTAL	3544	699	1359	988	6581
1959-60					
Agricultural Science	163	50	142	142	497
Biological Science	54	10	35	5	104
Education					
Minneapolis Campus	1628	256	232	76	2192
Duluth Campus	120	15	1		136
Language and Literature	265	39	118	47	469
Medical Science					
Minneapolis Campus	280	76	214	171	741
Rochester Campus	71	85	366	147	669
Physical Science	435	102	223	250	1010
Social Science	637	107	173	179	1096
Other					
Minneapolis Campus	56	9	39	20	124
Rochester Campus	1	2	8		11
Minneapolis Total	3518	649	1176	890	6233
Duluth Total	120	15	1		136
Rochester Total	72	87	374	147	680
GRAND TOTAL	3710	751	1551	1037	7049

able to grant 14 graduate doctoral fellowships for the biennium, 3 in the first year, 11 in the second. Like the Greater University Graduate Fellowships, these are designed to aid graduate students who have completed their preliminary examinations and are engaged in writing their doctoral dissertations. It was also possible, from the same funds, to make each year a series of Emergency Doctoral Fellowship grants. These were not for the full academic year, but were intended to help graduate students at the doctoral level who faced special emergency needs for materials, travel, and other purposes, the meeting of which would greatly expedite their thesis work.

The Greater University Graduate Fellowships were continued through the biennium, three in each year of the biennium. A brochure, not yet printed, has been prepared as a survey of the Greater University Fellowships in the period from the initiation in 1949 to the present. In all, 37 such fellowships have been awarded, in 18 different fields of study. Of the former fellows, 30 are now engaged in teaching, 2 in research, 1 in governmental service, and 3 in occupations on which information is not at present available. Ph.D.'s were completed by 27 of the students, and the other 10 are approaching the degree. By means of the Greater University Fellowship funds it has also been possible to make a series of six special awards to doctoral candidates facing emergency financial needs in relation to research and writing on their dissertations. These grants, normally of modest size, have been for necessary travel, microfilms and photostats, and other urgent needs.

During the biennium the total fellowship picture was somewhat, though not notably, improved within the University. Seventy-two graduate fellowships have been added, but 29 were discontinued. Thus the net gain was 43. These figures do not, however, take into account various traineeships in such fields as mental health, public health, public health nursing, and epidemiology. The stipends for teaching and research assistants, holding the normal 50 per cent appointments for the academic year, had been increased by 18.6 per cent in 1958-59 to \$1,890, and then were advanced to \$2,043 in 1959-60. A further improvement, to \$2,115, will go into effect at the beginning of the new biennium. Holders of such appointments pay tuition at the resident rate. The increases have placed the University of Minnesota in a much more favorable position than it occupied earlier for recruiting promising talent both for graduate training and aid to the faculty.

Fulbright and National Service Foundation Fellowships—Recently the Graduate School was given a list of all the University of Minnesota faculty people who have received Fulbright awards since this national plan was initiated in 1951. It is interesting to learn that Minnesota has had 74 appointments, and that these have taken these faculty members to 22 countries of the world for research and lecturing. Meanwhile, not a few students have enjoyed Fulbright grants, including six for 1959-60 plus one alumnus. Faculty applications are made directly to the Conference Board in Washington, but all student requests are channeled through the University's Fulbright screening committee.

The National Science Foundation Cooperative and Summer Fellowships have marked a genuine advance for graduate training in the sciences during the past biennium. During the second year of the past biennium, with a quota of 52 nominations for co-operative fellowships for the University of Minnesota in 1959-60, 28 were allocated (and since 4 declined in favor of other awards, the final figure was 24). The Summer Fellowships for Graduate Teaching Assistants had 29 nominations, and 16 were allocated. All these fellowships are designed to encourage students of high promise in the mathematics, physical, medical, biological, engineering, and selected social science fields, and the summer fellowships are intended to enable graduate teaching assistants to devote full time to their own studies and research during the summer months in order to enhance the quality of their training and to hasten the attainment of the advanced degrees. One by-product of the co-operative fellowships has been a special grant to the University for the support and strengthening of graduate education in the sciences of a sum of \$1,800 per each co-operative fellow. The total sum thus channeled to the Graduate School is being used in part for direct grants to the departments involved in the training of these fellows in order to build up scientific equipment and

in other ways to add to the teaching and research strength of the departments. In part, the fund is also being used along more general lines to add sturdiness to the Graduate School's total program in the sciences.

National Defense Graduate Programs and Fellowships—The University of Minnesota received approvals in four areas for 1959-60 under Title IV of the National Defense Education Act. These four areas were business administration, social sciences, energy conversion, and transfer and transport processes. As is well known, the program nationally is designed to increase the number of college teachers and to "spread" students over a wider geographic area. Under the four programs, 17 National Defense Graduate Fellowships were awarded the University of Minnesota for 1959-60. The fellowships are for potential Ph.D.'s and the tenure is for 3 years, with increasing stipends in the second and third years. The Executive Committee of the Graduate School served as the screening group for program applications, not only for 1959-60, but also for 1960-61. For the first year of the coming biennium, additional new or expanded programs under Title IV have been approved in German literature, economics, mathematics, the psychology of language, and the joint program in classics on which the University of Minnesota has embarked with the Universities of Wisconsin and Iowa. At the same time additional fellowships were made available for two of the previously approved programs—those in social sciences and energy conversion. Thus, in all, 34 National Defense Fellowships were granted to the University for 1960-61. Substantial grants in accordance with the number of fellowships were made to the University to enable it to carry forward the new programs. The University, through its central administration and the Graduate School, working in co-operation with the Association of Graduate Schools, took vigorous action in protest against the disclaimer affidavit required under the National Defense Education Act.

Honorary Fellowships—Many eminent scholars visit the University every year to do research or to observe our methods in education. During the biennium, 39 such scholars were awarded honorary fellowships in appointments made jointly by the President and the Dean of the Graduate School. Eleven of these were from the United States, and the others represented 17 foreign countries: Egypt, Finland, France, Germany, India, Iran, Israel, Italy, Japan, New Zealand, Norway, Pakistan, Poland, Sweden, Turkey, Union of South Africa, and Colombia, South America.

Social Science Research Center—The 12th and 13th annual public discussion series were handled as television programs by the Social Science Research Center. The weekly discussions in 1959 constituted 12 programs on the general theme "Controlling Human Behavior," and the 1960 series dealt with the Conant report. Members of the faculty have made highly valuable contributions through these public discussions, and on the Conant report a number of educators, public officials, and laymen were invited to join in the consideration of the public high school and its problems. There can be no doubt that the discussions have focused wide public interest on significant problems in the areas under review.

The Center has kept current its detailed inventory of ongoing social science research projects in the University.

Special Lectureships—The Guy Stanton Ford Lectureship, begun in 1958, was continued during the present biennium. The lectures for 1959 were in the field of political science: Dr. C. Herman Pritchett, University of Chicago, on "The Supreme Court and Congress." In 1960 the lectures were delivered in the area of sociology: Dr. Kingsley Davis of the University of California at Berkeley on the general subject "Public Policy and the World Population Crisis."

The lectureship honoring Joseph Warren Beach was inaugurated in 1959 and continued in 1960. The lecturers for the 2 years were respectively: Professor Lionel Trilling of Columbia University, "The Anti-heroic Principle in Literature," and Robert Penn Warren, "The End of a Poetic Era—Meditations at Mid-century."

The Guy Stanton Ford lectures, in recognition of the wide interests of Mr. Ford, will continue to spread out in various fields in the future, whereas the Joseph Warren Beach lectures, by the terms of the lectureship, will be on literature, emphasizing contemporary poetry, fiction, or criticism.

Faculty Summer Research Appointments—This plan, launched in 1946, was carried forward in both years of the biennium. Twenty-three recipients brought to a grand total of 169 the number of faculty members who have held these productive research and writing appointments since 1946. The range of projects for the past 2 years, as usual, was broad and represented the following major areas: anthropology, history, law, political science, classics, English, German, Romance languages, music, astronomy, inorganic chemistry, physical chemistry, chemical engineering, mechanical engineering, and mathematics. Unquestionably the plan has had good fruits in scholarly and creative work, and should be continued in the years ahead.

Hormel Institute—The outstanding achievement of the Hormel Institute during the biennium was the erection of a new laboratory building, for which the National Institutes of Health of the United States Public Health Service and the Hormel Foundation joined forces in providing the funds needed for construction and equipment. This modern building at Austin is being completed as this report is written, and its dedication date is June 25, 1960. The laboratory in its facilities and space is in step with the great progress made by the Hormel Institute. In the early 1940's the Hormel Institute was a dream, and the first step taken was a modest conversion of a great oblong-shaped barn on Mr. Jay C. Hormel's estate near Austin. Since that time, year after year, the Institute has made remarkable progress in its researches and has won national and international recognition, particularly for its work in fundamental chemistry and the biochemistry of lipide materials. Unquestionably the new laboratory building, costing about \$600,000, is a tribute to the productive advance of the Institute; and the expanded facilities hold out high promise for the future.

Dight Institute—The work of the Dight Institute in its research and counseling has gone steadily forward during the biennium, and at the same time its purposes and achievements have elicited wide interest and commendation. It is a remarkable fact that the late Pope Pius XII, devoted the major part of two addresses in 1958 to genetic counseling as described in the book by Dr. Sheldon Reed, director of the Institute, on *Counseling in Medical Genetics*. The Pope recommended that counseling centers like the Dight Institute should be established throughout the world, and he urged the adoption of eugenic measures (consistent with moral considerations). An Italian edition of Dr. Reed's book has been brought out by the Vatican Press, with the two papal discourses included as an appendix. Meanwhile there have been interesting steps taken on the home front. A legislative act of 1959 authorized the State Board of Health to establish a unit on human genetics as a part of its special services—an official acknowledgment that the State Board should be concerned with diseases having a genetic basis. The pioneering nature of this advance is evidenced by the fact that this is the first state board of health to establish a unit concerning itself with diseases of genetic character.

Cedar Creek—With more than 4,000 acres of wild environment, the Cedar Creek Natural History Area has made notable progress during the biennium in improving its facilities for biological and related research. Aerial mapping and the development of a biometeorological station have been carried forward with the aid of a generous grant from the National Science Foundation. The mapping project will provide large-scale contour maps of the entire area and its immediate surroundings, to be used in recording research within the area. Bench-marks have been surveyed and established at quarter-mile intervals to serve as reference points on the ground. Aerial photographs taken both during and outside of the growing season are already in use. The biometeorological station will have sensing elements in both forest and grassland environments near the laboratory, with permanent recording of general meteorological and micro-environmental data, and in addition will provide portable equipment for use in other environments.

This Cedar Creek area, within 35 miles of the Minneapolis and St. Paul campuses, has been used increasingly for natural history research and also for educational activities, the latter not only by the University but also by other institutions in Minnesota. Highly regarded for its natural values and the basic ideas for its use, the project seems destined to play a significant role in biological study and understanding for a long future.

India and South Asia—Considerable progress has been made during the biennium in planning for a program of South Asian studies at the University of Minnesota. In recognition of the importance of this field, the Louis W. and Maud Hill Family Foundation made a 5-year grant of \$25,000 to the University as a dean's fund to be used by the Graduate School in forwarding a South Asian plan and taking steps to develop leadership for it. The urgency of such a plan is emphasized by the fact that the famed India library of Mr. C. Lesley Ames will be transferred to the University library within the coming biennium. The dean convened a University committee to consider plans, and one step taken was the authorization of a survey of present centers for South Asian studies in the United States. A careful investigation included the work now being done at California, Chicago, Michigan, Pennsylvania, and Wisconsin and disclosed two major regional-cultural gaps in South Asian studies: Islamic India, and South India. The study resulted in a number of useful suggestions and recommendations. Toward the end of the biennium fuller information was brought together on courses of studies now actually being given on India and South Asia. Further steps are being planned to bring to a focus the Minnesota ideas, taking into account national needs, the University's full library resources, and the developing specialization of faculty interest and research.

Limnological Research Center—A recent research development of importance is the formulation of plans for research and graduate study in the field of limnology, aimed particularly at the creation of a limnological research center. The idea has been given the generous support of a 5-year grant by the Louis W. and Maud Hill Family Foundation in the amount of \$207,000. Toward the end of the biennium a University committee was at work attempting to find a qualified director for the center and setting plans for the initiation of its activities. The center will be under the policy supervision of an all-University graduate committee, with immediate administrative responsibility (and the budget) centered in the Institute of Technology. The center, as it develops, will focus University research interest on lakes and streams, water supply and its use, and the numerous and diverse ramifications of limnology along economic, biological, public health, recreational, conservation, and basic science lines.

Research—The Graduate School has continued through the biennium to encourage and forward University research through grants under the several research funds within its jurisdiction—the General Research Fund, the Medical and Cancer Research Fund, the moneys derived from the Research Overhead Reserve, the Minnesota Institute of Research, and the Nonmedical Research Fund. But the interest of the Graduate School has expressed itself in many ways other than grants, such as aid to scholars in formulating and presenting research projects to outside agencies, assistance in diverse fellowships, Summer Faculty Research Appointments, and the promotion of sundry special institutes and proposals for centers and research-doing enterprises. All these reflect the deep interest of the Graduate School in research throughout the entire University and the philosophy of a close interrelationship between research and graduate instruction.

The General Research Fund—This significant fund, utilized on an all-university basis, was given generous support through legislative appropriations for the biennium—\$100,000 for the first year and \$104,600 for the second. No attempt can be made here to summarize the 52 projects supported by grants in 1958-59 and the 54 in 1959-60. But it may be pointed out that the projects have extended over a wide range of major fields, such as the social sciences and humanities; languages, literature, and art; education and psychology; and the basic areas of agricultural science. Like so many of the

other funds administered by the Graduate School, this one often serves a seed-bed function, aiding important researches to get started, with the hope that after an initial period they will be able to turn successfully to outside sources for funds.

Research subjects within the range of grants from this fund include railroad production functions, the chemical activity of bacterial chromatophores, air flow between rotating coaxial disks, the taxonomy of political systems, Minnesota archaeology, plant embryo growth, leadership effectiveness, trends in broadcasting, the study of electrons in liquid helium, agricultural technology, employee attitudes and behavior, juvenile delinquency, perception and discrimination learning, geological studies, the logic of quantum mechanics, milk proteins, plant embryo growth, parental and family studies, wheat cytogenetics, production function for electric power, and personality characteristics of executives in business and industry. These are, of course, only a few of many far-ranging investigations aided through 2 years from this fund.

Medical and Cancer Research Fund—Like the General Research Fund this, even in a more pronounced way, functions in a seed-bed sense. A great many of the researches in the medical sciences at the University received their initial encouragement through this particular fund. The legislative appropriations were \$75,000 for 1958-59 and \$83,000 for 1959-60, making possible support of 68 projects for the first year and 57 for the second year of the biennium. At the end of each year brief reports are filed on progress made. The story is one of scientific advance in many areas significant to man both in sickness and in health. Among the many subjects of investigation, only a few can be mentioned here. These include researches of calcified tissues, membranes as tools in biological research, muscle failure, mechanical stress in skeletal organ development, effects of drugs on function in specific brain structures, diabetes, tranquilizers, electron-microscopy, vitamin B deficiency, new techniques for surgical treatment of cardiac disease, schizophrenics under stress, ionizing radiations, lung capillaries, kidney function, peptic ulcer, and toxicological research. The grants for medical research are made after careful study by the Medical Graduate Group Committee, and each year the requests run to several times the total of the available funds.

The Overhead Reserve Research Fund—Through this very useful fund, in a total of \$100,000 for each year of the biennium, the Graduate School is enabled to come to faculty assistance on many equipment needs, emergencies in ongoing researches, team projects, and various studies requiring grants preliminary to support from government or industry. Through this fund, the Graduate School also supports its system of Faculty Summer Research Appointments. Among the many grants made in the 2-year period only a few can be mentioned here. These include aid to the Tabulating Research Laboratory, major nuclear magnetic resonance equipment, Zeiss fluorescence microscope, development of a solar furnace for high-temperature radiation studies, apparatus for research in gaseous electronics, ion bombardment as a tool in studying neutron radiation damage of crystals, effects of antibiotics on plant pathogenic fungi, molecular vibrations, installations of a new electron microscope, X-ray studies of protein structures, equipment for research in physical electronics, studies in biochemical engineering, and a microscope for pollen analysis of Pleistocene sediments. Grants both from the General Research Fund and the Overhead Reserve Research Fund are made after screening and judicious recommendations by the General Advisory Committee.

Minnesota Institute of Research—As has been pointed out in previous reports, this Institute is supported by legislative grants—\$32,500 during the first year of the biennium and \$34,000 during the second—and its emphasis is on research problems having to do with the state's resources, their nature and use. The fund does not permit extensive subsidies to many projects, but those supported are of importance in connection with the fundamental purposes of the Institute. During the 2-year period, the Institute projects aided have included the study of rock fragmentation; forest plantation in soil moisture relations; studies of metallurgical systems at high temperatures; forestry researches, both as to forest land ownership and as to specific kinds

of trees, including the balsam fir and jack pine; studies of soil clays and organic matter derivatives; commercial fishery resources; biochemical engineering problems; strontium 90 in Minnesota soils; special soil researches in St. Louis County; aspen canker diseases; and the investigation of thin magnetic fields.

Nonmedical Research Fund—Ordinarily this fund is used for a wide variety of researches, with modest grants, and it supplies needs that usually would not attract support from government, industry, or special foundations. The funds, available through the University, amounted to \$31,625 in 1958-59 and \$31,000 in 1959-60. These made possible grants to 60 projects in the first year of the biennium and 54 in the second. As in the past, emphasis was given to the humanities, social sciences, and fundamental researches in a few other areas.

Here, again, it may be of interest to list subjects representative of the sweep of the researches. During the 2 years they have included topics such as floristic studies, prairie reptiles and amphibians, pollen and spores, fishes, slime molds, the ground squirrel, the chemical analyses of the water of Superior, flowering plants, cellular interaction, painting, biographical studies, the poetry of Matthew Arnold, the philosophy of John Dewey, the legendry of the Quetico-Superior country, modern Greek art, wrongful arrest, the European Union movement, voluntary reform associations, immigrant attitudes toward native Americans, iron ore taxation policies, the Minnesota Department of Conservation, musical composition, trends in social and behavior concepts, changes in the American economy, insect flight, Messenian topography and toponymy, intergovernmental relations, Indian languages, the work of Paul Cezanne, and the distribution of grassland sparrows. Grants from the fund are made by the dean on recommendation from the appropriate graduate group committees.

Summer Session—The Summer Session has become increasingly important for the Graduate School because of the richness of its regular offerings and its special opportunities at the graduate level. Graduate enrollments during the biennium have shown a steady increase, not only in absolute numbers, but also in their proportion to the total. The upward trend, observable in 1958 and 1959, is still more marked in 1960. Graduate registrations, on the basis of preliminary reports, appear to be up about 9.6 per cent, whereas the total summer enrollment seems to have declined.

Alongside splendid regular courses and programs, the Summer Session has continued its institutes for high school and college teachers in biology at Lake Itasca—now a regional and in some degree a national center. For the second successive year (1959 and 1960) counseling and guidance institutes at Duluth and Minneapolis have attracted outstanding students and faculty scholars of distinction. An institute in statistics (in the health sciences), first held in 1958, was repeated in 1959, and is being held again in 1960.

Graduate strength in summer offerings has been increased also in fields such as school psychology, school administration, the training of teachers of the visually handicapped and the crippled, training for school counselors, and graduate studies in Minnesota government and politics, and opera management. Institutes for high school teachers of physical sciences and mathematics, supported by the National Science Foundation, have been carried forward vigorously on the Minneapolis campus for several years and are now being continued.

In attracting new students and in enriching the education of those whose studies are in midstream, the Summer Session is making notable contributions to the total graduate program of the University. As suggested in earlier reports, the Summer Session is a constructive and integral part of the University, and it merits full University support in funds and faculty participation.

Mayo Foundation—The activities of the Mayo Foundation for Medical Education and Research are reported separately. The Foundation has proceeded successfully during the biennium in its program of advanced training for doctors of medicine. During the biennium a joint committee, appointed by the President, has studied the academic as well as the administrative and fiscal interrelationship of the Mayo Foundation with the Graduate School and

the University generally. Though much progress was made by the committee in its analysis of problems and its many suggestions, through a series of sub-committees, of changes and reforms, agreement on a total report was not reached. Improvement in the interrelations has been deferred for action under the incoming administration.

Duluth—Graduate School enrollments on the Duluth Campus have increased markedly during the biennium. While few students carry a full-time Master's degree program during the academic year, many teachers from Northeastern Minnesota public schools are taking late afternoon and Saturday courses. Many more than previously are enrolling in summer courses. Registration of 121 students in summer 1958 as compared to 104 in summer 1956 showed an increase of 16 per cent, while the figure of 125 graduate students in summer 1959 amounted to a 14.4 per cent increase over summer 1957 when there were 107 students. A greater increase is anticipated in the near future.

The rapid increase in numbers of undergraduate students at Duluth without a proportional increase in instructional staff has hampered the development of additional graduate courses and programs. High quality of instruction and research is essential to the graduate program at Duluth.

Although education and curriculum and instruction remain as the only two majors, a new program within the education major makes it possible for art teachers to take a large proportion of course work in studio art and in art education, greatly improving their professional qualifications. In cooperation with the College of Education Educational Psychology staff, a basic guidance institute, with support from the National Defense Education Act, is being planned for the summer of 1960.

Administration and Staff—The Graduate School depends for its success not merely on its central administration but on faculty, well-selected students, and the graduate group and special committees, the Executive Committee (in matters of policy), and the President for support and encouragement. Great masses of detail with respect to graduate education, fellowships, and research are channeled through the central graduate offices, and the vigilance and faithful work of the staff contribute much to the sturdiness of the school. The Executive Committee at the close of the biennium consisted of Professors David R. Briggs, Stuart W. Fenton, Robert J. Keller, John C. Kidneigh, David J. Merrell, Donald K. Smith, Maurice B. Visscher, Dr. Victor Johnson, with the dean as chairman and Miss Davis as secretary.—THEODORE C. BLEGEN, dean

The Mayo Foundation for Medical Education and Research

The Mayo Foundation counts as its major accomplishment the continuing confidence and support of the University and its Graduate School of which the Mayo Foundation is a part. An enduring purpose of the Foundation is to play its proper role in the University in education and research; to bring credit to the University because Mayo Foundation fellows graduate as well-trained medical specialists; and because fellows and faculty alike contribute importantly to the research achievements of the University.

Fellows—There are 618 fellows at work as graduate students in all the various medical specialties and sciences. Reflecting the laboratory and research interests of fellows, there are at present 193 fellows, or more than 30 per cent of the total number, who are on laboratory assignments, almost all of which are full-time. Applications for fellowships continue to arrive in gratifying numbers and quality. The number for the academic year 1959-60 just equals the average annual number received over the past 11 years, despite increasing competition. In the country at large there are many more residency positions (31,818) than there are available residents (6,860 graduates annually). Interviews with applicants indicate that, almost universally, the major influence upon the applicant's choice of the Mayo Foundation is the recommendation of an alumnus who spoke highly of his former training.

Faculty—The professional staff of the Mayo Clinic numbers 353 physicians, dentists and scientists, of whom 309, or 87 per cent, hold graduate faculty

appointments as follows: professors 73, associate professors 58, assistant professors 90, instructors 88. A careful screening of candidates for appointment and promotion is carried out by the University Academic Committee and the Medical Graduate Committee before recommendation to Minneapolis.

Committees—A development of basic importance in Mayo Foundation affairs in recent years has been the effective institution and employment of subcommittees, by the Medical Graduate Committee, which is the over-all educational policy-making committee. These committees, and their functions, are: *Admissions*, responsible for evaluation of applications and appointment of fellows; *University Academic*, which recommends new academic appointments and promotions; *Senate Members*, by election; *Educational Program*, responsible for the elaborate lecture and seminar program; *Awards*, for determining the fellows who should receive prizes and awards for excellence in research or general scholarship.

Training Grants—Parallel to the great annual increases in research grants requested from foundations and government sources, involving many fellows, there has also been an increasing training grant support of the educational program from such sources. At present there is support and block fellowship grants for 66 fellows, derived from American Cancer Society, Fulbright funds, Minnesota Heart Association, National Heart Institute, National Institute of Mental Health, National Institute of Neurological Diseases and Blindness, National Institutes of Health Division of Medical Sciences, Office of Vocational Rehabilitation, State of Minnesota Department of Public Welfare, United States Public Health Service, United States Air Force, United States Army.

An Appreciation—The faculty and administration of the Mayo Foundation are deeply appreciative of the trust placed in them by the Board of Regents, the president, and the dean of the Graduate School. The goal of the Mayo Foundation is to be worthy of that trust and to warrant a just pride by the University in the Mayo Foundation's accomplishments in medical education and research.—VICTOR JOHNSON, *director*

GENERAL COLLEGE

The General College for some time has attempted to give coherence to its biennial reports by concentrating on developments related to a selected topic of major concern. The three reports since 1952 have described the evolution of the curriculum, the pattern of internal reorganization, and the role in the conservation of human resources in Minnesota. This report continues the tradition by describing what the members of the faculty are doing to advance their professional standing.

The professional development of the faculty of a 2-year, terminal unit offering a program of general education, such as the General College, presents special problems. Like college teachers everywhere, those who teach in such a unit spend years in advanced study and preparation. When they accept appointment to give instruction in general education, they find they have moved a step away from professional activities traditional in the field of their special interest. Like most college teachers, their functions can be classified under the broad headings of instruction, research, and service. But for those in general education, there is a difference, and the difference is sometimes difficult to define.

General education courses usually are open only to freshmen and sophomores. Teachers of such courses cannot lead their students deeply into the more *recherché* reaches of a subject. Instead of tracing avenues of research along lines followed in graduate schools, they now study primarily the persons and materials they teach, and experiment with reorganization of content and teaching techniques. Past training led to associations they want to maintain in the established disciplines. At the same time, they are eager to exchange ideas with others working in the new field. Occasionally, the problem of dual loyalties becomes acute indeed when faculty members teach general education courses while they are completing requirements for an advanced degree in a specialized field.

All of these aspects of the problem, and more, are encountered in the General College. The self-study undertaken by the University in 1954, reported, in part, that:

The goals we seek are these: . . . stimulation of faculty members in individual research through professional assistance and guidance; . . . realistic and well-founded integration, wherever possible, of our program with those of other colleges of the University; and service to the entire field of general education in which this college occupies a unique and established position.

The task of preparing materials for the biennial report of the University presents an excellent opportunity to reflect upon attempts made to advance toward these goals.

From the beginning, the faculty has not been able to exercise total control of all aspects of the curriculum of the General College, nor have all of its members found it possible to give completely undivided attention to their teaching. One fundamental reason for this situation is that important segments of the curriculum have been taught by instructors from other departments or colleges. Another is that during the post-World War II period of swollen enrollments, the college recruited some of its key members from the ranks of graduate students who at first were free to serve only as part-time appointees as they focused the major portion of their energies upon earning advanced degrees.

A first indication that the faculty is advancing professionally, therefore, is that during the past biennium, the number of courses taught by "borrowed staff" has diminished. Further, five faculty members completed requirements for the Ph.D. during this period, increasing the number of those having that degree to 18. The fact that the number of candidates for advanced degrees among the core of instructors is now very small can be taken as tangible evidence of a maturing faculty.

Another sign of professional growth is that faculty members, in increasing numbers, are participating in the activities of professional organizations and studying general education programs offered on other campuses. More than 30 General College teachers attended, or appeared on the programs of the national meetings of 14 professional societies during the last biennium. The College sent delegations to Duluth, Chicago, and East Lansing to examine the 2 year programs at the University of Minnesota, Duluth, Wright Junior College, and Michigan State University.

For some years, the faculty as a whole has attempted to foster its own competence in a consistent and systematic way by means of a standing professional development committee. Every year, this committee sponsors a series of seminars, primarily for new teachers, dealing with general education, the place of the General College in the framework of the University, the nature of the student body, advising, and teaching. A subcommittee charged with the responsibility of combing scholarly journals for articles relevant to the program reports to the faculty as a whole, or calls individual studies to the attention of persons most likely to be interested in them. The committee also sponsors the faculty colloquia. Discussions at these regularly-held meetings usually revolve around new methods of instruction, testing and grading techniques, course organization, curriculum revision, and matters of general policy.

The professional development committee encourages members of the faculty to apply for foundation grants, sabbaticals, and quarterly leaves to obtain funds and time for individual study. It discusses research projects with the applicant, and helps him prepare and present his proposal to the dean or other authorities.

Finally, the professional development committee has some responsibility for two faculty publications. The mimeographed *General College Newsletter* is designed to function as a house organ. It disseminates to each member of the staff news of the professional activities of his colleagues, and brief accounts of significant developments affecting the college as a whole. The *General Education Soundingboard* is a lithographed publication, appearing occasionally, containing brief articles written by members of the General College faculty about current research or experimentation. It is sent also to persons teaching in general education programs in other parts of the country.

The General College faculty established a second committee during the 1959-60 academic year to supplement the work of its professional development committee. The research committee, as it is called, aids faculty members in many aspects of research: establishing a problem or design, statistical computation and analysis, and reporting of results. It is prepared to make recommendations to the administration concerning released time or financial assistance. It is making a catalogue of past research carried out in the General College, and it ultimately hopes to be able to point out aspects of the program needing further investigation. The committee has been functioning for less than a year, and its success has yet to be evaluated. The fact that it received its initial impetus from the faculty itself has given it a very promising beginning.

In recent years, educators have been increasingly concerned over what might be called the "pervasive outcomes" of college teaching. Stress upon mastery of factual content—traditionally a fundamental consideration of instruction in the liberal arts—is now being broadened. Today, *systematic* attempts are being made in college courses to foster powers of observation, analysis, discrimination, and judgment, as well as to sharpen sensitivity to problems, ideas, aspirations, and spiritual and social values.

Curricular innovations and new methods of instruction have always been encouraged and evaluated in the University's General College. The "pervasive outcomes" of instruction now being widely discussed in the field of higher education have long been emphasized in its program of studies. Critical thinking, the integration of learning, the ability to organize and communicate ideas, insight into the complexities of human behavior, and understanding of basic principles and relationships, are outcomes continually sought in General College classrooms.

In some academic circles, attention is now being directed to study of the creative process, and the development of creativity in individuals. Although creativity has been considered to be a quality encountered most frequently in the domain of the arts, leaders in many other fields of endeavor now insist that the national well-being, and even survival as a free nation, may depend largely upon revitalizing moral and intellectual resources through the systematic nurturing of the creative powers of the people.

The faculty of the General College has been giving serious attention to this matter. Instructors in writing, speech, philosophy, art and music, for example, have formed a study group to attempt to analyze, describe, and define the meaning of creativity. It has been the subject of faculty colloquia.

Instructors in other divisions of the college are interested in these developments. The immediate future should see further efforts to arrange subject-matter presentations, to devise new techniques of instruction, and to assign various kinds of student projects—all focusing upon this and the other "pervasive outcomes" of education. It is the hope of the General College faculty that continuing experimentation may yield new and useful understanding of "creativity" and the constructive force of disciplined imagination.

The total impact of these several developments cannot be accurately estimated in this section of the biennial report. That these efforts at professional development have been fruitful can be seen in the list of activities recorded for the faculty elsewhere in these pages under the heading of "University Personnel," and in the compiled *Publications of the Faculty*. It can be said here, however, that the biennium has seen completion of significant research into such aspects of the program as the effectiveness of laboratory procedures in biology courses; an evaluation of one of the composition courses; a whole list of studies investigating features of the student personnel program; and an extremely significant study of the achievement of General College students who transferred in recent years to other colleges of the University. Numerous additional studies are in progress.

It is an accepted fact that the excellence of a faculty determines not only the excellence of a college but also the nature of its program. During the period of growth of the General College, there has been a marked interaction between the evolving philosophy of the program and the characteristics of the faculty selected and appointed to teach that program. And in view of the peculiar difficulties of recruiting, developing, and retaining a faculty competent for and dedicated to teaching in a program of general education, it is

gratifying to be able to report that the General College continues to retain its position among the leaders of significant developments in the field of higher education nationally.—H. T. MORSE, *dean*

UNIVERSITY COLLEGE

University College has no faculty of its own and no curriculums under its jurisdiction. It serves students by permitting registration in a program of courses that crosses college lines.

Admission is granted on the basis of the program proposed by the student and the quality of work done previously. Most students find no need for entering before the third year in college. Each application is appraised by selected members of the University College Committee or by other faculty members who have special competence in the areas of interest to the student. Admission is not permitted if the educational objective can be achieved in another college or if the total program proposed does not seem worthy of a Bachelor's degree.

The registration during the biennium has remained fairly constant. The totals are given below:

	1958-59	1959-60
Fall Quarter	55	53
Winter Quarter	50	52
Spring Quarter	45	54

During 1958-59, 25 degrees were granted. In 1959-60 (including first term of summer session, 1960) the number was 18.—J. WILLIAM BUCHTA, *Chairman, University College Committee*

UNIVERSITY OF MINNESOTA, DULUTH

Shortly before the 12th anniversary of the establishment of the Duluth campus, a significant name change took place. The Regents' meeting in Duluth on June 26, 1959 officially changed the name from University of Minnesota, Duluth Branch to University of Minnesota, Duluth. President J. L. Morrill at the time said, "The Duluth campus has become a highly respected and progressive member of the University family. Its faculty and staff, its physical plant, and its student body are a credit to the whole institution. The attitude of the entire Northeastern Minnesota region toward the Duluth campus bears out that it has achieved true maturity and regional identity." Vice President W. T. Middlebrook had said earlier, "I am not keen about the 'Duluth Branch' in the present name of the Duluth campus. I would like to think of it as the University of Minnesota, Duluth. This is logical from the standpoint that the Duluth campus is not a separate part but an integral unit of the University."

New records for fall quarter registration were established with 2,301 undergraduates and 19 graduates in 1958, and 2,428 undergraduates and 31 graduates on campus in 1959. Registration for the fall of 1950 totaled 1,208 or less than half the size of the 1959 student body. The combined registration for the two summer terms in 1959 set a new record of 1,839. National Science Foundation funds supported a Science and Mathematics Institute for 125 teachers and a National Conference on Geology Teaching attended by 30 nationally known specialists.

Significant additions to the physical plant became available for use during the biennium. President J. L. Morrill dedicated the Humanities Building and Tweed Gallery October 19, 1958. The combined structure was made possible by appropriations from the 1957 and 1959 Minnesota Legislatures in the amount of \$1,120,000 and a gift of \$228,000 from Mrs. Alice Tweed Tuohy and her daughter, Mrs. Bernice Tweed Brickson. Tweed Gallery was dedicated as a memorial to the late George P. Tweed, pioneer Duluth banker, businessman, and industrialist.

The second group of residence hall units were opened for public viewing on May 24, 1959 and were made available to 116 summer session students in June.

Vice President Malcolm M. Willey dedicated the \$800,000 Social Science Building October 17, 1959 and addressed a luncheon meeting of UMD alumni on the subject, "Challenges to the Social Sciences."

The new first phase of a central heating plant was constructed at a cost of \$600,000 and tested during the spring of 1960.

The UMD Alumni Association, a constituent group of the Minnesota Alumni Association, at the October 17, 1959 meeting, launched a plan to raise \$180,000 for a 4,000-seat stadium.

Tweed Gallery continued to attract campus visitors during 1959-60 when 17,000 viewed the various exhibits. The department of speech established a regular broadcast schedule for the new 10-watt campus station, KUMD-FM. Official notice that Duluth campus graduates would be considered eligible for membership in the American Association of University Women was received in February, 1960.

Magna cum laude and *summa cum laude* honors were authorized for the first time at the 1960 June commencement. President J. L. Morrill addressed 334 graduates on June 7, 1960.

Research grants to individual faculty members increased substantially during 1959-60 with 33 engaged in various projects. Funds came from the Graduate School, Hill Family Foundation, National Science Foundation, U. S. Public Health Service, Atomic Energy Commission, and the Iron Range Resources and Rehabilitation Commission. Total support during the year passed the \$200,000 mark.

New scholarships and awards established in 1959-60 included the Duluth Home Builders' Womens Auxiliary Scholarship, First American National Bank Scholarship, Glass Block Store Scholarship, Howard W. Lyon Foundation Scholarships, Alice Tweed Tuohy Art Awards, Alice Tweed Tuohy Charitable Foundation Scholarships, Rotary Club of Duluth Scholarship, and the Hotel and Restaurant Employees Union Local 84 Scholarship. Experience during the biennium has demonstrated an urgent need for additional loan funds.

With a predicted enrollment of 2,925 students by 1961 and certainty of substantial increases in the college-age population starting in 1963, the earlier prediction of 4,000 students by 1970 seems conservative. Although there were no increases in staff and supply budgets remained fixed, the quality of instruction did not deteriorate during the biennium. Any list of needs for the biennium ahead, all of which are enrollment related, would include a substantial increase in staff members, increased allocations for supplies, expense, and equipment, and continuation of the Regent approved 10-year building program. Any delay in the above items would adversely affect the opportunities for higher education for area youth.—RAYMOND W. DARLAND, *provost*

GENERAL EXTENSION DIVISION

Evening and Special Classes—The record of this department for the biennium contains more significant developments than that for any other 2-year period during the past 15 years. While over-all registrations remained relatively stable, showing only a small percentage of increase each year, this situation compares favorably with extension divisions in other institutions with programs of similar size and scope. The evening class section of the department continued its broad program of university level classes in Minneapolis, St. Paul, Duluth and 36 other Minnesota communities. Close to 15,000 adult citizens of Minnesota attended nearly 1,000 classes annually, the great majority of which carried degree credit. In the area of short courses and lecture series, the program was considerably amplified and carried registrations for over 3,700 individuals.

Curriculum—In January of 1960 the Graduate School approved a plan for the offering of a course of study, leading to the award of the master of business administration degree, to be conducted by the graduate faculty of the School of Business Administration through the Evening Class Department of the General Extension Division. The program will be inaugurated in the fall of 1960 and provides an opportunity for individuals in business, industry or government to obtain the master of business administration degree solely by

TABLE I. EVENING AND SPECIAL CLASSES DEPARTMENT

Summary of Enrollments		
	1958-59	1959-60
Minneapolis, St. Paul and Duluth		
Arts and Sciences	13,161	12,621
Business	5,971	6,339
Engineering	3,497	3,577
Total Registrations	22,629	22,537
Off-campus registrations	1,455	1,199
Special classes registrations	323	314
Summer registrations	575	108
Grand total registrations	24,982	24,158*
Increase or decrease in registrations (from previous year)	+82	-824*
Number of short courses given	37	56
Number of short course registrations	1,495	3,721*
Mortuary Science		
Minnesota residents	77	69
Nonresidents	33	30
Total	110	99

* Beginning with fall of 1959, all recreation class enrollments were classified as Short Courses, increasing registrations in Short Courses by 1,200 and correspondingly decreasing registrations in evening and special classes.

attendance in night classes at the University while continuing in full employment.

Five new certificate programs were authorized during the biennium, bringing the current total to 17. Introduced in the fall of 1959 were: the junior and senior certificates in accounting; the junior and senior certificates in management of administrative services (developed in co-operation with the National Office Management Association); and the interior design certificate. In co-operation with the Institute of Technology, the Department revised the engineering certificate programs. The rather general junior and senior certificates in general and industrial engineering and the basic and senior engineering aide certificates were discontinued; substituted for them were the more organized and specialized certificates for basic and engineering science, and senior civil, electrical, industrial and mechanical engineering technician.

New Liberal Arts Program—In the summer of 1959 a new liberal arts program was inaugurated in the General Extension Division. Its primary purpose and goal is to develop and give new impetus to the liberal arts aspects of all extension activities. For the immediate present the activities of the program have chiefly involved the Evening and Special Classes Department; hence the inclusion of the program in this report. During the academic year 1959-60 several very noteworthy developments resulted from this effort. The Minnesota Plan for Continuing Education of Women, a unique proposal to rust-proof, retreat and challenge the educational aspirations of able women, received a Carnegie Corporation grant of \$110,000 for its 3-year pilot operation. The plan will operate at both the undergraduate and adult levels. The University's undergraduate women will be assisted in preparing themselves for the diverse roles they may expect to assume during their lengthening lives. Adult women also will be offered counseling, through the extension program which will co-ordinate existing coeducational opportunities and develop new course offerings to fit their special needs. As a trial run, pending confirmation of the grant which was not received until spring of 1960, a 2-semester seminar was conducted for a selected group of women citizens of the state who sat in with emeritus professors, department heads and subject matter experts for a full academic year of biweekly seminars and three 2-day institutes devoted to the consideration of "Critical Thinking in Contemporary Issues."

Supplementing the eighth lecture series of "Man and His Scientific Quest," two other public series featured the country's foremost scholars in the areas concerned, with complete sell-outs on a subscription basis for both "The Glory of Byzantium" and "The Temper of The Twenties."

1959-60 also saw the expansion of the newly created liberal arts program out into the state in two specific fields, with the appointment from the Drama

Advisory Service of the General Extension Division of a consultant to community and high school theaters, and of a Temporary Co-ordinator of Rural Arts in Agricultural Extension to work with this division and other appropriate units of the University.

Tuition and Instructional Salary Rate Increases—In 1959 a plan was devised for the remuneration of evening class and short course instructors, recognizing the individual's academic professorial rank as well as his period of service for the Division, and adjusting the rates of pay to levels more comparable to those received for instruction in the summer sessions. In order to finance these increases in salary expenses, the Board of Regents, in the spring of 1959, granted permission to raise tuition fees for the regular evening classes from \$7 per credit hour to \$8, a rate in line with those of comparable extension operations. This salary plan and the tuition increase went into effect in the fall of 1959.

The instructional staff is now divided into four classes according to academic rank or equivalent with the following base rate per credit hour: Class A: instructors, teaching assistants, etc.—\$100 to \$121.66; Class B: assistant professors—\$116.66 to \$143.33; Class C: associate professors—\$136.66 to \$170; Class D: professors—\$166.66 to \$191.67. Within each of the first three classes there are three longevity increases and in the last class one longevity increase.

The response of the faculty to this plan has been gratifying, both in terms of more interested co-operation in the planning and teaching areas and the department's ability to enlist the services of first-time extension teachers from the upper academic ranks. It is believed that this salary plan is constructed on a more just basis and is broader in its scope than that of any similar institution.

It should be noted that the tuition increase, as in the case of a like increase 2 years before, did not bring any evident objections from the student body nor, as far as could be told, did it result in any appreciable reduction in registrations. Hence, the added salary load occasioned by the establishment of the new salary plan was fully covered.

Current Plans and Future Needs—On the curricular side, the immediate tasks of most importance will be the implementation of the master of business administration program and the development of the Minnesota Plan for Women and of the liberal arts program. It is hoped that the first of these may lead the way toward the establishment of other graduate programs of like scope in engineering and education. The Minnesota Plan will require study and experimentation in the realm of new courses, seminars and correspondence study arrangements especially written, constructed and conducted for adults. Development of the liberal arts program will lead to the expansion of non-credit courses and lecture series, designed to meet the current needs for the continuing education of adults at university level.

All of these projects, which are beyond the established regular routines and functions of this department as conducted over the past years, will require an inordinate amount of staff energy, study and time. This work can be done effectively only by those staff members who have the knowledge and experience developed through years of service for the Division. As was pointed out in the report for 1956-1958, we were then—and still are—carrying on the routine functions with one less staff member than in 1946-1947. There is currently on the budget an unfilled position titled "Resident Manager of Downtown Minneapolis Office." It is strongly urged that this position be filled as soon as possible with a person competent to handle this office and the much neglected field work with business, industry and governmental organizations in Minneapolis, and in addition to supervise and develop the outstate offerings and assist with the general advising and counseling of students. With someone taking over these functions, other staff members can then be released from some of the present pressures and enabled to give thought and time to those projects which will permit us to maintain the proper position of the University as a leader in the field of general extension.—HUNTINGTON MILLER, *associate dean*

Department of Mortuary Science—The Department of Mortuary Science is an all-University school, which is administered by the General Extension

Division. It is a 3-year full-time program leading to an associate degree in mortuary science.

The department was visited for accreditation purposes in June, 1960. The report of the examiner was most complimentary and recognizes with approval the continual administrative support which the department has enjoyed.

The demand for graduates of this department continues to increase. The surrounding economic area of the state is making more and more demands for University of Minnesota graduates in this department.

The department's Committee for Scholastic Standing continues to raise acceptable levels for scholastic achievement and the quality of graduates continues to improve.

The department sponsored a special series of clergy-funeral director conferences. These were 12 in number throughout the state and attracted over 1,000 clergy of 31 denominations and 350 funeral directors. The program was most successful and attracted national attention.

Needs continue to be apparent for more teaching staff. It is hoped to meet this need in 1960-61 with the additional help of current part-time staff.

The overcrowding of this department continues to be most apparent. Studies conducted with the University committee representative on space-allotment indicate relief may come with the West River Expansion.—ROBERT SLATER, *director*

Correspondence Study Department—A near record biennium in correspondence study indicates a steadily growing interest in education. The 10,520 registrations accepted from 8,632 individuals in 1958-60 are exceeded only by the inflated enrollments during the war biennial of 1944-46. The 1958-60 biennium exceeds the 1956-58 period with 9,099 enrollments, by 1,421 or 15.5 per cent. The total active registration during the biennium was slightly over 16,000. The 5,375 registrations made by 4,448 individuals in 1960 marked the second highest yearly enrollment in the history of the department. This is an increase of 4.5 per cent over the previous year, and nearly 75 per cent more than in 1954. A projection of this rate of increase would place the 1965 correspondence enrollment at 8,175 and nearly 11,000 by 1970.

Of the 10,520 biennial registrations, 6.5 per cent came through the special contract with the United States Armed Forces Institute. Another 3 per cent were veterans enrolled under Public Law 550. Nearly 12 per cent of the enrollments were in high school courses. About 70 per cent of the individuals enrolled entered from Minnesota.

Greater interest in home study is manifested by higher enrollments in nearly every academic area. Comparing the enrollments in the various subject matter areas for the 2-year period 1955-57 with those received in 1958-60, reveals significant increases. For example, astronomy has a 130 per cent increase; classical languages, 118 per cent; geography, 260 per cent; German, 191 per cent; philosophy, 81 per cent; physics, 114 per cent; psychology, 80 per cent; Romance languages, 57 per cent; mathematics, 33 per cent; and Slavic languages a record 300 per cent increase. Only in the areas of home economics, music, speech, library training, journalism and public health were increases less than 5 or 10 per cent. The percentage increases are marked, but the actual number of registrations, of course, remains relatively small. Nevertheless, these higher enrollments reflect the emphasis on mathematics, science and languages, but it is equally important to note that philosophy, history and humanities showed substantial increases of 25 to 60 per cent.

The biennium marks several new ventures for the Department. In this period the department became actively involved in 3-credit telecourses, Social Problems, and Beginning German I and II, presented over KTCA-TV through KUOM. For the three courses via television, more than 1,400 persons purchased the materials and 85 enrolled for credit.

Another special project involved 600 specially selected superior high school students. In co-operation with the Minnesota National Laboratory for Secondary School Mathematics, and with funds provided by the National Science Foundation, modern algebra and geometry were presented to talented students in the rural areas of Minnesota, North and South Dakota, Iowa and Wisconsin.

Finally, the Correspondence Department organized a combined lecture-correspondence course for 60 rural librarians interested in Introduction to Library Methods. Classes were held at Thief River Falls, Anoka and Savage, with correspondence assignments covering the equivalent of half of the requirements. The enrollment figures mentioned in the first paragraph do not include the students in these special programs or those in the special course for aliens which is offered in co-operation with the Department of Immigration and Naturalization.

In 1958-60 more than 105,000 lesson reports were processed through the Department. This is a record number of assignments in any 2-year period. The following recommendations are made:

1. Academically the correspondence program of the University should be extended to include additional courses in Education and subject matter areas presented on the St. Paul campus. Particularly the areas of forestry and conservation need to be explored for possible correspondence courses. There seems to be a growing demand for instruction in these fields. Moreover, the Department could render greater service to the state with additional courses for teachers and those interested in home economics, agriculture, horticulture, etc.

2. Additional and safer filing space is the greatest need of the Department. With a 75 per cent increase in registrations within 6 years, additional room must be found to house study guides for over 320 courses, bulletins, enclosures, envelopes and other bulky material. Currently the weight of such items is probably excessive for the flooring and undergirding. This is now dangerous, and will become more hazardous as new course materials are developed. (A study has been made to rearrange many of the present files, and this will lessen the immediate danger of overloading the floors, but it will not solve the more pressing need for more space.) One nonrecurring item of importance is a thorough investigation of the lighting facilities for the De-

TABLE II. CORRESPONDENCE STUDY DEPARTMENT

	1958-59	1959-60
Regular Courses		
Registrations in force beginning of year	4,520	4,733
New registrations during the year	5,145	5,375
New registrations made through the USAFI	366	339
New registrations made under Public Law 550	204	150
Reinstatements from previous years	154	139
Reinstatements (registrations expiring within the year)	566	615
Total registrations in force during the year	9,819	10,247
Registrations terminating during year	5,652	5,976
Registrations in force at close of year	4,733	4,886
Special Course—Citizenship		
New registrations during year	42	91
Individuals Enrolled (Regular courses)		
New registrations	4,184	4,448
Total active registrations during year	7,846	8,362
Lesson Reports Received		
Regular courses and citizenship	52,063	53,266
Geographical Distribution of New Students		
Minnesota	2,881	3,129
Other states	1,125	1,080
Out of the United States	56	54
Army Post Office	61	75
Fleet Post Office	59	36
Number of states represented (including District of Columbia)	50	51
Number of foreign countries represented	25	23
Courses Offered	306	323
Instructors	133	138
Financial Report		
Receipts*		
Total receipts	\$159,302.99	\$197,001.89
Expenditures**		
Total expenditures	138,206.58	161,753.69

* 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.

partment. With much filing and typing and other activities that require adequate lighting, it is necessary that this be appraised by lighting experts and appropriate fixtures installed.

3. The Department needs about \$5,000 annual support for writing study guides. Heretofore, the increasing cost of writing and rewriting of study guides has come from income. In many instances the writing is of such a nature as to warrant extra compensation beyond the established rates. In many professional areas it is impossible to pay the actual worth of the manuscript, but a budgeted item of \$5,000 would assist in keeping the writing at high level and would cover special or extra writing of high professional quality.—F. LLOYD HANSEN, *director*

Department of Radio and Television Broadcasting—The Department of Radio and Television Broadcasting tries to achieve through radio and television the general educational objectives of the University of Minnesota. Specifically the Department provides an educational and cultural program service for listeners and viewers; experiments with the educational uses of radio and television; and, performs a public relations function for the University.

University of Minnesota Radio—Radio Program Policies—After carefully reappraising the radio broadcasting policies in the light of current trends in television and in commercial radio, it was concluded that there is no need to make any basic changes in procedures. In fact, because television has induced so many commercial radio stations to lighten their schedules, there is now greater demand than ever before for the type of information, news, drama, and music programs so long a feature of KUOM. A few of the station's main program services are described below.

Public Affairs Forum—Inaugurated in 1955, Public Affairs Forum, broadcast Monday through Friday from 1:30 to 2:15 p.m., presents by transcription what is undoubtedly the widest range of significant talks on current subjects to be heard on any Minnesota station, whether of local or network origin.

News Broadcasts—Today, when many radio stations present only truncated news programs of 5 minutes duration, KUOM emphasizes the extended and uninterrupted reporting of significant news. On week days the station broadcasts three 15-minute news reports at 10:30 a.m. and 12:15 and 4:30 p.m., in addition to a 5-minute news summary at 5:55 and a 5-minute roundup of University news, presented by the University (student Radio Guild at 5:50). News is also used for short fill-in periods.

Dramatic Programs—Through the facilities of the BBC transcription service, KUOM presents some of the world's finest dramas, recorded by excellent professional casts. The 1959 Summer Drama Festival, for example, included the following: Ibsen: *John Gabriel Borkman*; Conrad: *Heart of Darkness*; Shakespeare: *Cymbeline*; Robert Speaight: *The Flight to Varennes* (based on *Marie Antoinette* by Hilaire Belloc); H. A. L. Craig: *The Mouth of God* (the tragedy of Girolamo Savonarola); Laurence Kitchen: *The Trial of Machiavelli*; Patric Dickinson: (translator) *The Peace of Aristophanes*; and George Brown: *Through the Tunnel*.

Musical Programs—In the years since it was first licensed in 1922, KUOM has undoubtedly been the leader among all Minnesota stations in the consistent presentation of the best live and recorded music. During the summer, when the station is on the air for more hours, KUOM carried an average of 41 hours of music per week, devoting 59 per cent of its schedule to such programs. Even during the short months of November and December, KUOM broadcast 13 hours of music per week, or 37 per cent of its schedule.

An outstanding example of KUOM's music is its long association with the Minneapolis Symphony Orchestra. Since 1955 the station has tape-recorded the Minneapolis Symphony Orchestra's Friday evening subscription concerts for delayed presentation during the summer months. During 1959-60 these concerts were broadcast in their entirety, for the first time, including performances by such guest soloists and conductors as Yehudi Menuhin, Robert

and Gaby Casadesus, Ruth Slenczynska, Leonard Pennario, Eugen Jochum, and Eugene Istomin.

In addition most of the orchestra's young people's concerts were broadcast live, and weekly previews were broadcast to prepare concertgoers for the Friday evening concerts.

Minnesota School of the Air—KUOM's first regular program service for in-school use was the Music Appreciation series presented from 1931 through 1944. Experimental programs on other subjects were broadcast in the spring of 1938, and the Minnesota School of the Air as such went on the air September 21, 1958.

During 1959-60 the Minnesota School of the Air broadcast ten programs each week on subjects ranging from children's literature to foreign languages, plus occasional special programs.

During the year a total of 30,000 pieces of printed material were distributed in Minnesota alone, in connection with all Minnesota School of the Air broadcasts. Survey data indicate the minimum audience for their programs to be not less than 100,000 different children per week.

Programs from the St. Paul Campus—The Information Service on the St. Paul campus contributed two programs to KUOM each weekday: *The Homemaker's Quarter Hour* from 10:45 to 11:00 a.m. and the *University Farm Hour* from 12:30 to 1:00 p.m.

Student Participation—Although basic responsibility for University of Minnesota radio and television rests with the professional staff of the department, extensive use is made of students. Some of these are paid for their services, while others contribute their time on an extra-curricular basis. Approximately a dozen student announcers work from 5 to 20 hours per week as newscasters, news editors, producers, actors, and announcers. Many engineers are students at the University, who are paid for their services.

KUOM Wins Top Honors at Columbus Institute—At the Institute for Education by Radio-Television held at Columbus, Ohio, in May 1959, KUOM received a first prize for *Ideas and the Theater*, produced under a grant from the Educational Television and Radio Center, and broadcast over more than 60 educational radio stations in all parts of the country, through the facilities of the National Association of Educational Broadcasters. The series also was broadcast in Minnesota by KSTP and WDGY as well as by KUOM, and was heard overseas through the short wave facilities of the Voice of America.

FM Broadcasting—Funds were set aside 10 years ago for an FM transmitter and a construction permit was obtained, but it later was decided to surrender the permit. However, there is now such a revival of interest in FM that the matter should be re-examined.

An FM station would permit night broadcasting, thus surmounting KUOM's main drawback—sunset sign-off. A University program service on FM could be extensive. Many evening events at the University, from Minneapolis Symphony Orchestra concerts to athletic events could be broadcast live. In addition, a serious music service would be possible at all hours of the day, as well as evening hour repeat talks and dramatic programs now heard only in the daytime on KUOM.

University of Minnesota Television—To best advance the purposes of education, the KTCA-TV broadcasts ranged from credit courses to informal programs presenting educational material with a light touch. Although this department is not responsible for closed-circuit television or for training in broadcasting, close co-operation was provided to the Institute of Technology, the College of Education, and the School of Dentistry in their closed-circuit experiments, as well as with the Department of Speech and Theater Arts and the School of Journalism in providing a laboratory for instruction in television techniques.

During the biennium, programs on KTCA-TV ranged from formal courses for credit to the unstructured and relaxed format of *Folio*. A few of these are described below.

Social Science Research Series—During 1958 and 1959 programs were presented in co-operation with the Social Science Research Center of the Graduate School. During the winter quarter of 1959 the subject was, "Controlling Human Behavior." During the spring quarter of 1960, a series on the Conant report was broadcast, which dealt with the problems of secondary education, with particular emphasis on the high schools in Minnesota.

Folio and *Town and Country* are examples of programs with very free formats. *Folio*, a series of full-hour productions broadcast during the spring quarter of 1960, presented interviews and short features in varying lengths about interesting personalities and ideas.

Town and Country was the only University of Minnesota program originated in the Channel 2 studios, rather than in Eddy Hall on the Minneapolis campus.

Space and Equipment Needs—Studio facilities and office space are major problems for this department. Most of the broadcasting is done from four studios built in 1938 for radio only. The largest of these has been turned into a makeshift television studio, with the result that television is inadequately served, while radio is crowded through the loss of its largest studio. This single television studio is also used to originate some closed-circuit television lectures, and it provides only inadequate laboratory facilities for speech and journalism courses in television and radio. Therefore, a high priority should be given in the West Bank construction plans for much larger radio and television facilities.—BURTON PAULU, *director*

Municipal Reference Bureau—The Municipal Reference Bureau acts in a dual capacity. It serves as headquarters of the League of Minnesota Municipalities and at the same time conveniently places the available University services at the disposal of citizens, as well as officials, interested in municipal problems. The head of the Bureau also directs the League and is a member of the faculty of the Political Science Department. This interchange of directorates works out for the advantage of all concerned. It provides a means for advanced or graduate students in political science and public administration to prepare reports on special problems of concern to municipal officials. Two half-time research assistantships are included in the staff for this purpose.

The following table is a summary of activities the past 2 years in outline form.—ORVILLE C. PETERSON, *director*

TABLE III. MUNICIPAL REFERENCE BUREAU

	1958-59	1959-60
Inquiries	2,407	2,911
Publications		
Magazine:		
Monthly circulation	8,376	8,136
Average pages per issue	30	27
Reprints and Publications:		
	Legislative Proposals to Be Debated	Amendment Number 1 editorial reprints
	Sewage Stabilization Ponds	Analysis of Municipal Liquor Store Operations for 1958
	Metropolitan Mosquito Control	C. C. Ludwig's farewell message, November 19, 1959
	Legislative Proposals Adopted at Legislative Conference	Legislative Proposals to Be Debated—June 1960
	Analysis of Municipal Liquor Store Operations for 1957	Analysis of Municipal Liquor Store Operations for 1959
	Home Rule Committee Endorses Amendment Number 1	Reprints of Statement of Pension Policy
	Police and Firemen Pension Studies	Legislative Proposals Adopted at Legislative Conference

TABLE III.—Continued

	1958-59	1959-60
Research Memorandums:		
Salary Survey—over and under 2,500		Salary Survey—over 2,500 Population
Tentative Suggested Ordinance Adopting National Building Code by Reference		Salary Survey—under 2,500 Population
1959 Calendar of Important Dates in Villages		Status of Household Goods for Purpose of Taxation
Municipal Annexation and Consolidation		Suggested Ordinance Providing for Payment into City Treasury of Fines and Penalties Recovered for Violation of City Ordinances
Important Election Laws Changes—1959 Legislative session		Consolidation of Municipalities in Urban Counties
Regulation of Peddlers, Solicitors, and Other Forms of Transient Selling in Minnesota		1960 Calendar of Important Dates in Villages
		Attracting Doctors of Medicine to Engage in Practice in Small Communities
		Form of Government of Home Rule Charter Cities in Minnesota
		Research File Classification
Conferences		
Annual Convention	44th—Minneapolis 793 delegates 140 municipalities	45th—International Falls 776 delegates 128 municipalities
Regional Meetings	17 meetings 1,223 officials 270 municipalities	16 meetings 1,324 officials 296 municipalities
Consulting Service		
Municipalities receiving charter or municipal reorganization consultation service	18	16
Short Courses		
	Attendance 1958-59	Attendance 1959-60
City and Village Engineers	57	80
Juvenile Law Enforcement Officers	64	95
Assessors Institute	233	229
Sewer	101	111
Water School	120	114
Institute for Police Chiefs	57	54
Mayors-Councilmen (Including newly elected Mayors-Councilmen)	52	.....
City Managers	21	27
Finance Officers	75	94
Public Works	52	47
Building Inspectors	43	43
Traffic Court Conference	63	76
New Mayors and Councilmen .....	.....	68
Mayors and Councilmen .....	.....	78
League Committees		
	1958-59	1959-60
Study Committees appointed to prepare legislative recommendations	9	11
Field Service		
Municipalities visited	194	80
Officials seen	335	177
Mileage of special field trips	4,794	3,255
Mileage incident to regional meetings	2,700	2,286

Center for Continuation Study—The program of the Center for Continuation Study has been expanded during the 2-year period, 1958-60, to meet the recurring requests from federal and state agencies and from industrial management to meet their needs in continuing management education. To implement this portion of the program, a management specialist has been added to the Center staff.

Building Needs—The program facilities of the Center for Continuation Study are not adequate to the program. The staff of the Center is aware of its responsibility for planning and administering conferences and institutes befitting a great University, but often is frustrated in its attempts by lack of space. To encourage and advance continuing education at the University of Minnesota, it is hoped that consideration will be given to the request for the following space needs.

1. The addition of a fourth floor for sleeping rooms with bath. A large portion of the second floor has rooms without bath. With the addition of a fourth floor, the second floor section could be converted to conference room space.

TABLE IV. ATTENDANCE IN CENTER FOR CONTINUATION STUDY COURSES BY COUNTIES 1958-60

Aitkin	34	Itasca	348	Pope	37
Anoka	158	Jackson	37	Ramsey	2,624
Becker	68	Kanabec	48	Red Lake	24
Beltrami	85	Kandiyohi	129	Redwood	65
Benton	22	Kittson	17	Renville	56
Big Stone	26	Koochiching	76	Rice	191
Blue Earth	237	Lac qui Parle	29	Rock	38
Brown	124	Lake	99	Roseau	14
Carlton	140	Lake of the Woods	17	St. Louis	2,006
Carver	47	LeSueur	67	Scott	43
Cass	42	Lincoln	23	Sherburne	28
Chippewa	78	Lyon	52	Sibley	42
Chisago	47	McLeod	67	Stearns	295
Clay	127	Mahnomen	10	Steele	144
Clearwater	34	Marshall	25	Stevens	34
Cook	20	Martin	79	Swift	54
Cottonwood	65	Meeker	45	Todd	55
Crow Wing	124	Millie Lacs	43	Traverse	17
Dakota	265	Morrison	57	Wabasha	59
Dodge	31	Mower	133	Wadena	32
Douglas	84	Murray	25	Waseca	53
Faribault	64	Nicollet	88	Washington	192
Fillmore	43	Nobles	66	Watonwan	51
Freeborn	139	Norman	25	Wilkin	43
Goodhue	119	Olmsted	262	Winona	132
Grant	19	Otter Tail	150	Wright	76
Hennepin	4,958	Pennington	60	Yellow Medicine	46
Houston	29	Pine	37		
Hubbard	29	Pipestone	37	Total	16,040
Isanti	64	Polk	116		

TABLE V. BIENNIAL AND TOTAL ATTENDANCE BY TYPE OF COURSE

Type of Course	1958-60		Total 1936-60		Average Attendance per Course
	Number of Courses	Attendance	Number of Courses	Attendance	
Medical	43	2,707	409	20,955	50
Educational	36	2,068	302	20,416	67
Technological	28	3,559	117	16,085	139
Public Health and Hospital Service	19	1,754	230	14,653	62
State-Municipal	37	2,791	213	13,462	61
Commercial	20	1,168	190	12,834	67
Social Welfare	25	1,522	170	10,265	61
Nursing	17	1,207	126	8,427	66
Civic and Cultural	19	1,082	127	7,773	62
Dental	37	632	291	5,331	18
Labor	17	1,374	59	4,785	82
Legal	5	338	30	2,054	69
Pharmaceutical	2	134	22	1,222	56
Kenny Technique (for Technicians and Nurses)			38	537	14
National Defense			6	506	84
Kenny Technique (for Physicians)			24	441	18
Totals	305	20,336	2,354	139,746	59

2. The installation of an elevator.

3. More adequate dining room space. The height of the Center dining room is such that a second floor or even a balcony could be added to provide such space.

4. An auditorium with the capacity of 350. The present auditorium has a capacity of 110, and scheduling conferences and institutes for a large crowd, therefore, becomes an acute problem.

5. Until such time that the above space needs are met, may it be suggested that the use of the President's mansion, located in southeast Minneapolis, be explored for Center use to take care of overflow conferences and institutes.—FREDERICK E. BERGER, *director*

TABLE VI. CONTINUATION COURSES AND INSTITUTES

	1956-58	1958-60	1936-60	Per cent
Number of courses	313	305	2,354	
Number of registrants				
Minnesota	16,283	16,040	109,079	78
Other U. S. states	3,591	3,997	29,079	21
Foreign countries	268	299	1,588	1
Total	20,142	20,336	139,746	100
Male	13,672	14,848	91,728	66
Female	6,470	5,488	48,018	34
				Average
				per course
Number on Faculty	6,115	5,643	38,914	17
Course hours	7,299¾	7,500	70,598¾	30
Course days	1,154½	1,136½	12,466½	5

Audio-Visual Extension Service—The growth in all areas is increasing quite rapidly during this biennial period. Many more adult groups, business and industry, and civic groups have been served. More films in specialized areas, such as college level materials, medical field, mortuary science, salesmanship, and others, have been added to the film library. 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 1400 prints were added to the library during this biennial period. About 6,000 requests for films could not be filled because films were not available when needed.

Improvement of service to the people of the state is a constant goal. Requests for institutes, conferences, and workshops have increased each year. Every request has been filled. This has entailed co-operation with the College of Education, the Center for Continuation Study, and the State Department of Education in conducting these many conferences.

The service and the condition of films have improved because of the addition of electronic equipment for film booking and film inspection. The following film brochures for special groups were compiled and sent to hundreds of organizations: "Minnesota Radio Stations Tape Resource Guide"; "Selected Films for Mortuary Science Education"; "Business-Industry Motion Picture Resource Guide"; "Selected Films for Use in Nurses Training"; ten issues of the newsletter "Look, Listen, Learn," and the "1960 Spring Film Bulletin Supplement."

Taped lectures broadcast over KUOM, the Institute of Child Welfare taped programs, and some of the Minnesota School of the Air programs were made available to many individuals and organizations. Over 600 programs were dubbed and sent to these individuals and organizations. Requests for programs came from 30 different states, and a few were sent overseas.

Present and Future Needs—Present: (1) Acquire additional space in the present building for inspection and shipping and facilities. (2) Acquire additional space for the booking office. (3) A new office for the director.

Future: (1) Space in some building large enough to house the present operation with expansion space for the next 10 years. (2) Air-conditioned film

vault to house 10,000 to 15,000 films. Fire-proof vault to protect an investment of \$2,000,000 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 our state. (4) A display and work room in which samples of teaching materials can be produced and off-campus people can come to learn how to make their own materials.—ERWIN C. WELKE, *director*

TABLE VII. AUDIO-VISUAL EXTENSION SERVICE

	1957-58	1958-59	1959-60
Number of communities served	2,494	2,414	2,817
Number of visual programs furnished	48,437	53,776	64,538
Number of shipments	21,930	23,191	24,725
Number of prints in the library	6,850	7,432	8,290
Number of titles in the library	3,592	3,942	4,278
Total receipts	\$118,734.94	\$132,914.06	\$133,214.84

State Organization Service—World Affairs Center—The State Organization Service (SOS) 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 of membership records, purchasing, address and telephone number, conference and meeting facilities, subject matter and organizational assistance. These services free officers of member associations to devote more of their time to their educational functions. In 1958-59, 37 organizations were affiliated with SOS; in 1959-60, 34 organizations were affiliated. The number of SOS member organizations varies from year to year, depending on organizational needs.

SOS in no way seeks to influence the policies and purpose of any of the groups it serves. Each organization maintains its own complete independence and autonomy.

The State Organization Service administers the Minnesota World Affairs Center which is a regional center for education in world affairs composed of and directed by 27 Minnesota organizations interested in this field. Nine of these 27 organizations are also members of SOS. The World Affairs Center assists individuals and organizations through its program service, pamphlet shop, film advisory service, and inquiry service. It sponsors conferences, institutes and seminars 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 1958-59, 36,449 publications were sold or distributed without charge; in 1959-60, 26,238 publications were similarly distributed for a total distribution during the biennium of 62,687.

The World Affairs Center is generally recognized by Minnesota citizens to be the focal point for world affairs information and activities in the state.—WILLIAM C. ROGERS, *director*

—JULIUS M. NOLTE, *dean*

SUMMER SESSION

During the biennium 1958-60, the Summer Session continued to serve the substantial and varied student body with extensive course offerings for graduates and undergraduates. A variety of workshops, institutes, and special programs, added to the extensive course offerings, contributed to the position of the University as the leader among the major institutions offering summer sessions.

The 1959 Summer Session enrollment rose 5.8 per cent. From the partial registration picture available for the first summer term, there will be a decrease of approximately 5 per cent in 1960. The total registration for 1959 was 17,316.

An effort was made to strengthen the summer staff at the upper ranks by raising the maximum salaries from \$1,150 to \$1,250 in 1960. This new salary scale will help to keep pace with academic year increases and thus insure the retention of the higher ranking faculty for summer teaching. Parallel increases

were made in the Summer Session fee structure to enable the University to meet the cost of increased faculty salaries.

Institutes—In addition to the more than 1,000 courses offered for graduate and undergraduate students in the many schools and colleges of the University, a wide variety of workshops, institutes, and special programs present unique opportunities for Summer Session students.

The National Science Foundation and the Louis W. and Maud Hill Family Foundation have made a number of the institutes possible in 1959 and 1960. Among these were institutes for high school and college teachers in science (including chemistry, physics and biology) and mathematics; an institute in radiation biology, and an institute in biostatistics for public health statisticians.

Through funds made available under the National Defense Act in 1959 and again in 1960, the University was able to gather a distinguished faculty from its own ranks and other institutions to offer institutes in counseling and guidance. A course in ground water supplies development designed primarily for engineers employed in foreign areas was offered in 1959 and in 1960 at the request and with the support of the World Health Organization and the International Cooperation Organization of the State Department.

A special course in agricultural economics for students of the far east and sponsored by the Council on Economic and Cultural Affairs was offered on the St. Paul Campus for the first time in 1960. A distinguished lectureship in chemistry was sponsored by the Minnesota Mining and Manufacturing Company in 1960, and brought a world renowned chemist to the University.

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 alternate summers at the University of Wisconsin and the University of Minnesota.

Special Events—The recreation program during the summer is an important cultural supplement to the academic program, and there is a great variety of activities for the student who wishes to avail himself of these opportunities. Various organizations co-operate with the Summer Session in producing these programs. The staff of Coffman Memorial Union engages in a number of special programs for summer students, including the arts and crafts studio, bowling and square and ballroom dances. Both the University Gallery and the Minnesota Museum of Natural History hold exhibits of special interest during the summer.

The Physical Education Departments for both men and women present a rounded program of sports.

In 1959 and in 1960, a weekly newsreel, a feature film, and noteworthy educational films were presented with the co-operation of the Department of Audio-Visual Education. Foreign films not ordinarily available to the theater-goer were included in the program.

In this biennium, the University Theater continued its active program during the Summer Session. In 1959, *She Stoops to Conquer* and *Billy the Kid* were given on the Minnesota Centennial Showboat. In addition, *Pal Joey* and *A Stitch in Time* were presented in the Scott Hall Auditorium. *The Skin of Our Teeth* was given by the University Theater High School Workshop in the Arena Theater in Shevlin Hall.

Similarly, in 1960, *Forty-Five Minutes from Broadway* was played on the Minnesota Centennial Showboat. In addition, *Romeo and Juliet* and *Waiting for Godot* were performed in Scott Hall Auditorium. The High School Theater Workshop presented *Our Town* in the Shevlin Hall Arena Theater.

The Department of Concerts and Lectures continued to present programs of distinction during the 1958-60 biennium. The Andahazy Company Ballet presented an outstanding program in 1959, as did the Summer Session Symphony, and a variety of instrumental, vocal and dance artists.

Graduate Work—Increasingly, the importance of the Summer Session in making it possible for students to extend their academic work throughout the year is made evident. An extensive study made by the dean of the Summer

Session and the Bureau of Institutional Research notes that an increasing proportion of Summer Session enrollment includes regular academic year students. An important part of this group are the graduate students. Particularly significant in this context is the fact that graduate school enrollment in 1960 increased even though the total 1960 enrollment decreased. In 1959, the graduate school enrollment showed the largest proportionate increase. The increasing number of graduate courses offered, and the variety of graduate workshops and institutes contribute significantly to graduate education in Minnesota.—E. W. ZIEBARTH, *dean*

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

Increased interest in physical education, recreation and intramural athletics during the biennium was gratifying. The most startling increase came in the intramural program which showed an 8.4 per cent gain indicating the necessity of expanding the facilities to meet the demand.

The Department Facilities Committee found that in order to keep in stride with enrollment and interest, expansion is imperative.

Since retiring past indebtedness the building fund continues to grow.

Spectator interest in all sports remained high with special emphasis on basketball where both student and public interest produced capacity crowds.

Intercollegiate teams showed great improvement in 1959-60 over the previous year with a record of 110 games won, 64 lost and 3 tied.

The baseball team, under Coach Dick Siebert, again won the Big 10 Championship, the Region IV title, and the World Series of College Baseball at Omaha, the NCAA National Tournament.

Individual championships were won by Duane Hoecherl who won first place in the Big 10 Conference Gymnastics Meet on the parallel bars, and by David Odegard who won first place in the high hurdles in both the indoor and outdoor Cross Country Conference Meets. He also won first place in the high hurdles in the Drake Relays and was second in the NCAA Meet.

Under the aid program in effect in the Big 10 Conference 180 University of Minnesota athletes are now receiving some type of scholarship aid.

Following is a record of season play on the golf course, tennis courts, and ice rink:

	Golf		Tennis	Skating	Total
	9 Holes	18 Holes			
1958-59	26,139	36,174	11,703	34,548	108,564
1959-60	24,675	35,081	10,477	32,354	102,587

Special Events—Each year the Department conducts a number of special events in addition to the regular scheduled activities. Some are conducted by the Department, but others are carried on in co-operation with the state or Twin Cities school boards. A list of these special events follows:

1958-59

1. Host to the Russian hockey team.
2. State high school championship tournaments in basketball, gymnastics, golf, tennis, track, swimming.
3. Twin City high school football game.
4. Minneapolis and St. Paul high school dual meets in track, basketball, hockey, swimming, gymnastics.
5. Northwest gymnastics meet.
6. Coaching clinics in basketball, football, swimming, wrestling, hockey, gymnastics, baseball, tennis, track.
7. Basketball tournaments: Twin City High School, Minneapolis Subdistrict, District 17, District 18, Region 4, Region 5.
8. Hockey tournaments: Minnesota Prep Schools, Region 2, Region 4, Region 5, Region 6.
9. Gymnastics: meet with U. S. Air Force Academy, Region 5 high school tournament.
10. Track Meets: Northwest Open, Twin City, Out-State, Minneapolis High Schools Relays, District 18, Minneapolis High School Tournament.
11. Golf Meets: District 17, St. Paul High School Tournament, Region 5.
12. Tennis Meets: Twin City Tournament, Region 5.
13. American Red Cross Life Saving classes.

TABLE I. STATISTICS ON INTERCOLLEGIATE ATHLETICS FOR 1958-59 AND 1959-60

Activities and Head Coaches	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. Freshman Candidates		No. Freshman Numerals Awarded		No. Games Won		No. Games Lost		No. Games Tied	
	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60	58- 59	59- 60
Baseball Siebert	27	33	12	15	15	18	106	116	39	47	26	34	19	23	16	18	67	69	22	28	21	26	6	6	0	1
Basketball Cowles-Kundla	22	24	14	14	8	10	72	37	19	18	17	12	15	12	12	11	53	19	16	14	8	13	14	11	0	0
Cross Country Kelly	6	6	2	2	4	4	26	21	11	15	6	12	6	9	4	5	15	6	6	2	5	4	1	2	0	0
Football Warmath	9	9	7	7	2	2	115	128	61	58	57	55	38	39	30	32	54	70	37	52	1	2	8	7	0	0
Golf Bolstad	12	10	4	6	8	4	42	48	26	27	17	13	13	9	7	9	16	21	10	8	6	7	6	1	0	0
Gymnastics Piper	13	15	8	8	5	7	40	40	23	26	8	14	7	13	6	9	17	14	6	5	7	10	6	5	0	0
Hockey Mariucci	25	28	20	24	5	4	98	94	35	33	25	21	18	23	17	19	63	61	16	18	13	10	10	16	2	2
Swimming Heusner	12	12	7	8	5	4	44	60	24	28	18	21	16	21	13	17	20	32	10	16	6	7	6	5	0	0
Tennis Murphy-Lewis	13	14	7	7	6	7	22	25	14	13	10	7	7	6	7	6	8	12	7	6	9	8	4	6	0	0
Track Kelly	13	8	8	6	5	2	65	70	30	37	23	29	23	23	20	19	35	33	14	12	13	10	0	0	0	0
Wrestling Johnson	19	18	10	11	9	7	34	31	20	24	19	19	14	14	12	8	14	7	11	6	14	13	5	5	0	0
TOTALS	171	177	99	108	72	69	664	670	302	326	226	237	176	192	144	153	362	344	155	167	103	110	66	64	2	3

1959-60

1. State High school championships in basketball, gymnastics, track, swimming, tennis, golf.
2. Host to Czechoslovakian Olympic hockey team.
3. Baseball: NCAA Playoffs, Region 4 high school tournament.
4. Coaching clinics in basketball, wrestling, gymnastics, hockey, football, swimming, baseball, golf, tennis, track.
5. Basketball tournaments: Twin City High School, District 17, District 18, Region 4, Region 5.
6. Hockey tournaments: St. Paul High School Playoffs, St. Paul Region, Region 2, Region 4, Region 6, Minneapolis Prep Schools.
7. Gymnastics meets: Northwest Open Tournament, Region 4, Region 5, Big 10 Conference Meet.
8. Minneapolis and St. Paul high school dual meets and games in gymnastics, basketball, hockey, track, swimming.
9. Track tournaments: Twin City High School, Private High Schools, Out-State High School, Minneapolis High School Relays, District 18, Region 5, State A.A.U.
10. Tennis: Twin City High School Tournament.
11. Golf: St. Paul High School Tournament, Twin City High School Tournament.
12. Twin City High School Football game.
13. Swimming: St. Paul High School Meet.
14. American Red Cross Life Saving classes.

Physical Education—The Department has continued to fulfill its basic functions in the area of physical education. These are (1) to provide for the professional preparation of undergraduate and graduate students in physical education and in recreation, and (2) to offer an instructional and competitive program in sports for the general student body of the University.

The enrollment statistics and number of degree recipients for the professional programs are summarized in Tables I and II.

The sports education program continued to provide opportunities for several hundred young men to learn skills in sports activities each quarter. In the spring quarter, 1960, the sports education program had its highest enrollment (780) at any time in the years since required physical education was dropped by many colleges in the University after World War II. The number of registrations for sports education classes reached a total of 2,186 for the second year of the biennium. The instructional programs offered through the Extension Service demonstrated continued popularity.

The intramural sports program exhibited considerable growth, which attests to the vigor of the program and its leadership.

One of the outstanding achievements during the biennium was the establishing of the Louis F. Keller Lectureship. This was set up in the spring of 1959 in connection with Dr. Louis F. Keller's retirement. The lectureship has enabled the Department to bring to the University of Minnesota Campus each year an outstanding leader in physical education to deliver a lecture for the students, faculty, and friends of the University.

A noteworthy administrative change was effected at the close of the biennium. The St. Paul Campus Department of Physical Education was incorporated as an integral unit within the Department of Physical Education and Athletics.—ISAAC J. ARMSTRONG, *director*

TABLE II. NUMBER OF STUDENTS ENROLLED IN VARIOUS PROGRAMS OF THE DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS 1958-60

Various Programs	1958-59						1959-60					
	ISS	IISS	F	W	S	Total	ISS	IISS	F	W	S	Total
Undergraduate												
Physical Education	21	8	152	151	133	465	40	16	147	143	134	480
Graduate												
Physical Education	82	47	31	23	28	211	89	55	27	17	19	207
Undergraduate												
Recreation Leadership	34	22	76	76	75	283	27	14	63	65	64	233
Graduate												
Recreation Leadership	6	3	9	12	19	49	8	4	22	6	8	48
Total	143	80	268	262	255	1,008	164	89	259	231	225	968

TABLE III. NUMBER OF DEGREES AWARDED TO STUDENTS ENROLLED IN THE VARIOUS PROGRAMS OF THE DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS 1958-60

Various Degrees and Programs	1958-59						1959-60					
	ISS	IISS	F	W	S	Total	ISS	IISS	F	W	S	Total
B.S.												
Physical Education	1	3	1	1	11	17	4	6	1	4	15	30
Recreation Plan I	1	1	3	1	6	12	1	3	1	0	5	10
Recreation Plan II	0	4	2	2	4	12	2	2	1	2	1	8
M.Ed.												
Physical Education	1	3	0	0	0	4	3	1	0	0	0	4
Recreation Major	0	1	3	1	0	5	1	1	0	0	0	2
Hospital Recreation Major	0	0	0	0	2	2	1	2	0	2	0	5
M.A.												
Physical Education	0	8	1	2	2	13	1	3	3	0	1	8
Ph.D.												
Physical Education	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	20	10	7	25	65	13	18	6	8	22	67

TABLE IV. INTRAMURAL PARTICIPATION

Activity	Teams		Games		Individuals		Participations	
	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60	1958-59	1959-60
Archery					6	15	12	23
Baseball	19	16	42	39	263	233	678	651
Basketball (F)	158	153	235	224	1,676	1,496	3,321	3,029
Basketball (W)	200	213	503	543	2,029	2,087	6,776	7,438
Bowling (SS)	20	20	135	138	91	91	280	329
Bowling (F)	146	159	1,881	1,929	946	1,043	5,430	5,453
Bowling (W)	150	159	2,000	1,795	1,045	1,108	5,861	5,135
Bowling (S)	75	124	945	1,371	507	729	2,542	3,674
Cross Country	18	25			73	104	73	104
Free Throw	48	63			417	442	417	442
Golf	34	37	38	32	246	307	395	669
Handball	14	13	230	184	103	86	198	156
Hockey	39	36	94	92	522	550	1,714	1,605
Judo			26	19	14	10	52	38
Paddleball	15	14	200	189	101	104	172	173
Sigma Delta Psi					5	8	9	22
Softball (SS)	21	31	76	127	289	455	1,344	2,359
Softball	148	143	344	334	2,149	2,014	6,393	6,095
Squash			65		15		37	
Swimming	35	32			210	174	410	432
Table Tennis	45	44	377	379	191	218	336	345
Tennis	31	48	272	497	147	235	248	379
Touch Football	134	139	334	342	1,951	1,783	6,024	5,788
Track	37	40			206	265	387	491
Volleyball	73	128	863	1,492	842	1,235	2,147	4,025
Wrestling	32	37	89	122	90	123	178	236
Total	1,492	1,674	8,749	9,848	14,134	14,915	45,434	49,264
Increase	12.2 per cent		12.6 per cent		5.5 per cent		8.4 per cent	

These figures include organized competition only. A large number of students recreate in informal "free play" activities such as golf, swimming, tennis, handball, etc.

DEPARTMENT OF ALUMNI RELATIONS

The Minnesota Alumni Association

The biennium 1958-60 saw the completion of the Constituent (college) Alumni Plan, with 12 of the 14 colleges (except Law and General College) organized. Also the successful installation of a permanent system to alumni records, membership and mailing.

Officers—Officers of the Minnesota Alumni Association for 1958-60 were as follows:

For 1958-59

President J. D. Holtzermann, BA 1921
 First Vice President Wendell T. Burns, BA 1916

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Second Vice President Russell E. Backstrom, BSME 1925; MSME 1927
 Secretary Clara MacKenzie Bierman, BA 1917
 Treasurer Sam W. Campbell, LLB 1937

For 1959-60

President Wendell T. Burns, BA 1916
 First Vice President Russell E. Backstrom, BSME 1925; MSME 1927
 Second Vice President Virgil J. P. Lundquist, MD 1943
 Secretary Janet Hart Widseth, BS (HE) 1939
 Treasurer John A. Moorhead, BA 1930
 And Ed Haislet, BSEd, 1931, as Executive Secretary

Office—Because of the installation of the punch card system to alumni records, in 1959 personnel was reduced from 18 full-time employees to seven and from seven to five employees in 1960.

Budget—Total income from the Minnesota Alumni Association for 1958-59 was \$56,764.47, plus \$72,413.00 from the University making a total of \$129,177.47. In addition to the \$72,413.00, President Morrill allotted \$7,145 from the Regent's Reserve Fund to help with alumni records changeover. For 1959-60 the budget totaled \$122,425.00—\$56,966.00 representing income for the year from the Association and \$65,459.00 received from the University.

Field Service—During the 2 years 103 alumni clubs were visited by the field representative and 93 additional community contacts were made. The total number of Minnesota alumni clubs is 108—58 in-state clubs, 46 out-state, two alumnae clubs and two alumni clubs outside the continental limits of the United States.

The Association received 45 requests for speakers from the University faculty and 208 service-program requests (films, slides, etc.) during the biennium. The number of service-program requests shows a definite decrease in comparison to last biennium.

In the past 2 years Minnesota alumni clubs held 98 reported meetings with 15,252 Minnesota people in attendance. The in-state clubs averaged 2.25 meetings a year during 1958-59 and 2.10 during 1959-60; the out-state clubs had an average of 1.73 meetings a year.

Membership—The highest membership figure in the Association's history was achieved in 1958-59. At the end of the year paid memberships totaled 15,296. This is an increase of 1,226 members or 8.8 per cent over 1957-58. Again in 1959-60 a new high in membership was reached with a total of 16,810.

The actual number of members for this biennium were:

	1958-59	1959-60
Regents	5,395	5,817
Paid-in-advance	464	384
Life	48	31
Annual	5,504	6,505

The 5-year or paid-in-advance memberships:

	Number	Amount in Operating Fund	Total Amount in Reserve Fund
1959	2,000	\$7,281.90	\$17,962.05
1960	1,967	7,350.00	

The life membership fund as of April 1, 1960 was \$118,327.82 (cost) with a market value of \$156,629.26.

The life membership time-payment plan was started in 1953 and in 1958-59 obtained 69 members of which 41 were completed and in 1959-60 obtained 31 members of which all were completed.

Constituent Alumni Group—Four constituent associations were formed in the fiscal year 1958-59 bringing the total number to 12 as of July 1, 1960. General College and Law School remain without an association.

Special Events, Services and Promotion—The St. Paul Quarterback Club was again sponsored by the Alumni Association for the eighth and ninth consecutive years. Mr. Elmer Engelbert has been chairman and host for the

meetings which are held at the Minnesota Club in St. Paul on Monday noons after the football games.

Football meetings again were held in conjunction with the football games in 1958 and 1959.

In 1958 such meetings were held in Ann Arbor, Michigan; Bloomington, Indiana; and Eau Claire, Appleton, and Madison, Wisconsin prior to the Wisconsin game.

In 1959, in conjunction with the Northwestern football game, meetings were held at Eau Claire and Appleton and a pre-game luncheon in Evanston, Illinois. Also, meetings were held in Des Moines and Cedar Rapids, Iowa in conjunction with the Iowa game. A pre-game luncheon was held at West Lafayette in conjunction with the Purdue game.

The 1958 Homecoming was held October 18, Minnesota vs. Illinois with the slogan "Spillinois."

The 1959 Homecoming was celebrated October 31, with the University of Vanderbilt visiting us for the first time in many years. "Spook the House That Vanderbilt" was the motto.

In both years the Alumni Association worked in close co-operation with the Student Homecoming Committee, and alumni served on committees for judges of the Homecoming Parade, house decorations, queen contest, bonfire and pep fest. Also, an election of a Homecoming King was conducted. Nominations were submitted by all in-state and out-state alumni clubs.

The 56th and 57th annual reunion celebrations were held according to the new reunion plan, with the Alumni Association sponsoring only the 50th class reunion.

Other reunions were the Class of 1899, Class of 1900 and the Class of 1934 Nurses.

Also, in 1958-60 special reunions were held: A Doc Williams Football Reunion was held in 1958 for all those who played in the Williams era. In 1959 reunions were held for Fritz Crisler and Bernie Bierman. The second and third annual Southwest Alumni Reunion in Phoenix, Arizona, was sponsored by the Valley of the Sun Club, Phoenix, Arizona.

A new program, the Alumni Honors Day Luncheon became a part of the general alumni program during the 1956-58 biennium. The third annual Charter Day was held February 26, 1959, in the Main Ballroom of Coffman Memorial Union—its primary purpose was to honor all former recipients of the Outstanding Achievement Award. The Charter Day Luncheon held February 25, 1960, initiated a new honor award—the Alumni Service Award—which was presented to six notable alumni whose service and interest to the University and Alumni Association work had been outstanding.

Alumni Magazine—Nine 36-page issues of the *Minnesota Alumni News* were published, October through June. In 1958-59 the average number of copies per issue was just over 15,000. In 1959-60 the average number of copies was 15,950. A special issue of the *Alumni Magazine* was sent out to 77,150 non-members in August, 1959. The issue was devoted to University Expansion.

Board of Directors—The Board of Directors of the Association met seven times in 1958-59 and four times 1959-60. Among the significant actions not covered in the body of that report were:

Endorsed the Stadium Advisory Committee's report on the need of a new stadium and an adoption of the report by the Board of Regents was urged.

Established an MAA Memorial Gift Fund in co-operation with the Greater University Fund. Under this arrangement the Greater University Fund will send an acknowledgment of a gift from the Alumni Association on behalf of every deceased alumnus.

The fact-finding committee on athletics was appointed by President Morrill last December. Mr. J. D. Holtzermann represented the Alumni Association on this committee.

A vital matter during this period was the coming retirement of President Morrill and election of a new president of the University of Minnesota. The Minnesota Alumni Association Board of Directors offered their assistance to the Board of Regents and to the President. After a committee on selection of a new president was named by the Board of Regents, the MAA Board ap-

proved an alumni committee of five to assist the Regents committee in whatever way it could.

Established an Editorial Advisory Committee for a 10-year period to make such criticisms as might improve the quality of the alumni magazine.

Appointed a special committee to study the Alumni office space needs.

Brought all people working for the Minnesota Alumni Association under the State Workman Compensation Plan.

Approved a new five point Foreign Student Alumni Program, with special reduced Life Membership rates available to foreign alumni.

Authorized a new Alumni Athletic Committee, consisting of a chairman to be appointed by the MAA President, the MAA President and Executive Secretary, plus the two alumni members of the Senate Committee on Inter-college Athletics.

Successfully converted the alumni records system to a punch card system—with a reduction in overall operating cost of \$8,200.

Authorized a study of the MAA Life Membership Plan to determine if a graduated scale of life membership fees was actuarially sound.

Endorsed the action of the Greater University Fund trustees of February 1, 1960, approving that a fund raising study be made at the University of Minnesota by G. A. Brakley and Company at a cost of \$25,000—and that the Trustees recommend be sent to the Board of Regents for their consideration.—**ED HAISLET, director**

GREATER UNIVERSITY FUND

The steady growth picture of gift support to the University through the Greater University Fund was continued during this biennium.

Alumni representatives on the Board of Trustees during the biennium included: Louis Gross, Edwin A. Martini, Betty Sullivan, Henry Mackall and Lloyd Hatch. Alumni representatives are appointed for 3-year terms by the Board of Directors of the Minnesota Alumni Association and may serve a maximum of 2 terms. Other Board members are President J. L. Morrill, Vice President Malcolm M. Willey, Vice President Laurence R. Lunden, and representing the Board of Regents, Lester A. Malkerson. Edwin L. Haislet, alumni executive secretary, serves as the secretary for the Board of Trustees, and R. P. Provost as the director.

The office staff remained at the same level during this biennium. The staff is made up of the director, a secretary, a cashier and a clerk-typist. Office space was again provided in 205 Coffman Union with use of alumni records and mailing facilities at Workman Service Company.

During the 1958 calendar year campaign, gifts totaling \$423,522.60 from 4,324 contributors were channeled through the Greater University Fund. During the first year, 1957, the totals were \$420,500 in gifts and 5,025 donors.

The most significant development, operationally speaking, within the Greater University Fund during this biennium was the transfer to an IBM project card records system. Automatic records in co-operation with the Minnesota Alumni Association are maintained through contractual relationship with Workman Service Company, Minneapolis, Minnesota.—**ROBERT P. PROVOST, director**

INDUSTRIAL RELATIONS CENTER

The Industrial Relations Center's program of research, training and service has undergone considerable expansion during the past biennium. Research in new areas, and more intensive study in projects of long-range duration, have been made possible by legislative, governmental and private financial assistance. Students enrolled in the graduate program have increased in number, and service activities have multiplied over the past 2 years.

In recognition of the Center's responsibility to the citizens of Minnesota, and the need for guidance and counsel from this source, the IRC Advisory Council was enlarged to a membership of 27 persons.

Research—The research program of the Center is conducted by six laboratories. Within each laboratory, research teams work on a series of studies related to one major problem area in employment relationships. Areas of

study during the past 2 years included vocational rehabilitation of handicapped workers, professional standards in industrial relations departments, employee attitudes, dual allegiance of unionized employees, communications practices among technical employees, membership participation and communications within unions, and management development. Successful co-operative relationships have been worked out in each laboratory with companies, unions, government agencies, and professional societies interested in industrial relations research. Co-operators have participated actively in the research work and have contributed financial support to these studies.

The first year's work on a research project on the effectiveness of job placement procedures with physically handicapped counselees, supported by a \$22,402 grant from the Office of Vocational Rehabilitation (OVR), U. S. Department of Health, Education, and Welfare, was completed on July 31, 1958. The project was continued for another year under an additional grant of \$29,900 from OVR. During this period, nine research bulletins reporting the project studies were published in a series entitled "Minnesota Studies in Vocational Rehabilitation." For two of these bulletins, four research staff members were awarded the 1958-59 Annual Research Award given by the Division of Rehabilitation Counseling, American Personnel and Guidance Association, for the most outstanding research in rehabilitation counseling.

Successful completion of the 2-year project resulted in the awarding of a new 5-year research grant totaling \$259,000 by OVR to the Industrial Relations Center. This new project focuses on the investigation of work adjustment among physically handicapped individuals. The first year of this project ended on June 30, 1960. During this period, work on the design and methodology for the project was completed and reported in a research bulletin. Collection of data is now in progress.

The Professional Standards Laboratory has examined the activities or functions of the personnel department in industry in a continuing series of studies started in 1948. Annual reports on the costs of providing professional personnel staff services and on personnel staff ratios (the number of personnel staff members per 100 employees) have received the attention of companies throughout the United States. Companies have used these studies as benchmarks against which to compare their own programs. A comprehensive report of the job duties of the principal personnel staff jobs published in 1959 also attracted national attention from companies and from occupational counselors. Under a 3-year research grant from the American Management Association beginning in 1960, these studies will be expanded during the coming biennium.

As a first step toward providing comparable statistics on employee absences, a standard formula for computing employee absence rates was outlined in a manual released by the Industrial Relations Center in 1959. In a co-operative research study conducted in 1959 and 1960, 28 manufacturing companies in the Twin Cities used this standard formula and reported monthly absence rates to the Industrial Relations Center for analysis. This research study was supported through a grant-in-aid by the Graduate School.

The Triple Audit Laboratory has continued study of employee attitudes. Major developments during the past 2 years have centered about three areas: (1) extensive studies of the supermarket industry; (2) development of an attitude scale for sales occupations; and, (3) occupational analysis of employee attitudes. Employee attitudes have been found to differ markedly in both level and sub-scale content for various occupational groups.

The Personnel and Labor Relations Laboratory has conducted studies on dual allegiance of unionized employees toward their company and their union. No evidence of dual loyalty was found. A study of the communication practices of technical employees developed new techniques of measuring communication activity and identified dimensions of technical communication.

A study undertaken jointly by the Union Studies Laboratory and the International Woodworkers of America and 11 affiliated locals in two states investigated union membership participation, communications, and union member attitudes. Findings show that officers, members of long standing and active members have more favorable attitude scores than rank-and-file members, new members, and inactive members.

A Fulbright research grant to an IRC staff member made possible a study of membership participation and attitudes in German unions that parallels the

research on unions in the United States being done in the Union Studies Laboratory. About 2,600 German union members completed questionnaires. A report is being prepared for publication.

The Management Development Laboratory continued the program of study of problems of management development initiated several years ago. Some very real methodological and substantive results were obtained. For example, relatively accurate and reliable measures of managerial jobs and functions, predictors of management potential, and a methodology for the study of managerial compensation have been developed. In addition, evaluative studies of management training and development programs have continued with the co-operation of participating firms. Achievements in the development of research tools and methodologies as well as co-operative relationships with interested business organizations provide a sound base for continued effort. Several articles in professional journals and one book have been published which outline these research results.

Research results are published by the Industrial Relations Center in a series of bulletins, reprints, and special releases which are distributed to a mailing list of approximately 7,000 persons representing business, labor unions, government agencies, faculties in colleges and universities, libraries, research foundations and citizens interested in the problems of employment relationships.

Training—Professional training for graduate students in industrial relations at the Master's and Ph.D. levels is a major function of the Industrial Relations Center. During the academic year 1958-59, there were 54 graduate students specializing in industrial relations; in 1959-60, there were 39. During the biennium, 29 students were granted the degree Master of Arts in Industrial Relations.

In 1960 the Graduate School approved a program under which Ph.D. candidates with the following major specialties may take their minor work in industrial relations: agricultural economics, business administration, economics, journalism, political science, psychology, and sociology. This program was designed to meet the needs of students who are interested in the study of employment relationships as a supplement to a Ph.D. major in one of the related disciplines.

Evening courses in industrial relations are offered in co-operation with the General Extension Division. These courses are especially tailored for the student who is now employed in personnel or labor relations work and who wishes to supplement his experience in the field with selected specialized courses. A Certificate in Industrial Relations, awarded upon completion of 45 credits of prescribed course work, was earned by 7 students in the past 2 years.

A program of short conferences has been an integral part of IRC's training activities since the establishment of the Center. These 1- and 2-day conferences are devoted to discussions of current employee relations problems, and nationally recognized authorities in industrial relations serve as discussion leaders.

In response to a long-standing request from industrial relations practitioners in the southern half of the state, the Southern Minnesota Industrial Relations Conference was added to the conference program in 1959. The first conference, held in Waseca, had 66 registrants representing companies, labor unions, and citizens interested in employee relations problems. Other annual conferences in the regular conference program included the Upper Midwest Industrial Relations Conference held in Minneapolis; the Northern Minnesota Industrial Relations Conference held in Duluth and Iron Range cities in alternate years; and the Labor Conference held in Minneapolis. These conferences had a total registration of 853 persons from Minnesota and neighboring states.

The Center assumed primary responsibility for the University's labor education program on July 1, 1959, in line with the provisions of a special legislative grant that called for development of new projects for training teachers and union education committee chairmen. In 1959 and 1960, activities under this new program have included: (1) three intensive 1-week training courses for chairmen of education committees of central labor bodies and local unions;

(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.

Because of the current significance of the Landrum-Griffin Act, four special 1-day conferences were held in November, 1959 and January, 1960 to discuss the provisions and anticipated effects of the law upon labor-management relations. Two conferences were for labor, one for management, and one was jointly sponsored. A total of 382 persons attended.

The Center's Labor Education Program of short courses, institutes, and conferences carried on in co-operation with the General Extension Division and the Center for Continuation Study has had well over 6,000 persons enrolled since it was started in 1951. During this biennium, a total of 482 persons were enrolled in 21 short courses; 329 were enrolled in 6 labor institutes; 45 in a special training conference for the Office Employees International Union; and 88 at a special conference on Labor in World Affairs. 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.

In addition to planning and directing the IRC conference program, members of the Center staff participated actively in planning the following conferences sponsored by various professional groups: Governor's Conference on Rehabilitation; National Conference on Research in the Psychological Aspects of Rehabilitation; Junior Chamber of Commerce World Congress in Management; Training Conference for Employment Service Counselors; Twin Cities Student Urban and Industrial Seminar; Dean's Retreat, and World Trade and the Seaway.

The research and training activities of the IRC have received attention throughout the world. During the past 2 years, the Center was visited by 28 scholars and practitioners from 7 states and 6 foreign countries.

The Reference Room provided special reference assistance to 671 inquiries from off-campus representatives of companies, unions, government agencies and the general public throughout the world, in addition to the many student requests received daily. A special Dale Yoder Collection was added to the library in 1959 through donations by his friends, colleagues and former students. It was established in recognition of Dr. Dale Yoder's 25th year of service to the University. This is the second such special collection to be received by the Reference Room, the first being a memorial to the late Clarence Lofquist, St. Paul labor union official.—HERBERT G. HENNEMAN, JR., *acting director*

Divisions of Academic Administration

OFFICE OF THE DEAN OF STUDENTS

The staff of the Dean of Students Office has remained at the same numerical strength during the past biennium and has continued to serve students, faculty and people of the state through personal services to students and co-ordination of the University's Student Personnel Programs.

Orientation Program—The orientation-registration program provided individualized attention to 12,317 new students inducted into the University during 1958-60. Of these, 1,201 attended Freshman Camps which emphasized the understanding of personal, cultural and social changes each new student will experience during his college life.

Approximately 5,000 parents attended the Parents' Day programs in this biennium.

There were 8,000 copies of the *Moccasin* distributed annually to new students and their parents.

In 1958, 271 students attended special orientation programs for foreign students. In 1959, 324 attended such programs.

Residence Counseling—Each year of the biennium 145 residence counselors were selected and provided the training and supervision for special work with students living in University residence halls, fraternities, sororities and rooming houses.

Nine members of the Student Counseling Bureau staff served as consultants for the Residence Counseling program. Four members of the Student Activities Bureau, six members of University Services and one of the Student Housing Bureau provided the direct supervision of the residence counselors.

St. Paul Campus Branch—The staff of the St. Paul Office of the Dean of Students consists of representatives of the Student Housing Bureau, Student Counseling Bureau, Student Activities Bureau, Co-ordinator of Students' Religious Activities and the Foreign Student Adviser. In 1958-60 the staff had 23,616 contacts with 12,808 of these in 1959-60.

In 1958-59, 29 faculty members from the College of Agriculture, Forestry, and Home Economics participated in a series of seminars on student personnel research sponsored and conducted by the Dean of Students Office staff.

In May 1960 the first special Dean's Retreat for St. Paul campus students was held. Thirty gifted freshmen and sophomore students participated in a series of discussions designed to stimulate their intellectual interests.

Co-ordinator of Students' Religious Activities—The pattern developed at Minnesota which welcomes the ministrations of all religious bodies to students of their own faith has continued to prove its appropriateness on campuses of tax-supported institutions of higher learning. Co-operation among the many groups—Christian, Jewish, Moslem, conservative and liberal—manifested itself in the welcome to new students during orientation, and in programs for religious participation week which featured Dr. Theodore Gill in 1958 and Father John M. Osterreicher in 1959. The Minnesota Statehood Centennial Commission presented to the University the religious exhibit from the Centennial Train in recognition of the fact that the University is the one place in the state where all religious groups work together.

The Minneapolis campus religious groups changed the name of their inter-religious co-ordinating council from Student Council of Religion to Council of Student Religious Organizations, a more descriptive term. Religious Census Cards were filled out by 18,281 students in 1958 and 19,580 in 1959 representing 78 and 80 per cent of the total enrollment, respectively.

Initiation of the Theological Lectureships in Winter Quarter 1960 proved to be a strong academic addition and also a means of arousing interest on

the part of the state's religious bodies. First lecturer was the Reverend R. A. F. MacKenzie, S. J., of Toronto (winter quarter) and the second was Professor A. J. Heschel of the Jewish Theological Seminary (spring quarter).

Co-ordinator of Students' Recreational Activities—The co-ordinator participated in 1,048 group and individual conferences and meetings considering such matters as the University Conference Center, the directory of student recreational activities and studies of University student recreational needs.

Foreign Student Adviser—The number of foreign students and visitors were 1,594 in 1958-59 and 1,570 in 1959-60. There were 81 countries represented among these students. The graduate students comprised 51.5 per cent of all foreign students, undergraduates were 7.6 per cent and adult specials were 3.0 per cent. China had the largest number with 174 students. India was next with 124, and Korea had 109. During the fall quarter, 1959, the Middle East group increased from 83 to 108.

In 1958-59 the staff had 35,595 contacts with or about foreign students; in 1959-60 the number was 32,238. In 1958-59 there were 560 meetings involving 8,068 people and in 1959-60 there were 648 meetings with 13,665 people.

The special English language for foreign students continued to improve the English capabilities of some foreign students.

During this biennium Dr. Moore completed the study on the University's relations with its foreign alumni under the sponsorship of the Carnegie Foundation.

Bureau of Student Loans and Scholarships—During the past seven bienniums from 1944 through 1958, there had occurred a steady, linear increase in the demand for student financial aids so that the case load had increased eightfold during the 1944-1958 period. This increase was attributed to (1) the establishment of new scholarship funds, (2) a revised student loan program, and (3) an increasing public awareness of the financial problems of college students. The trend toward increased student financial aids continued at a phenomenal rate in the 1958-60 period, as it has on a national level with the dollar volume in loan assistance doubling and scholarship assistance increasing at a steady rate.

A major portion of this rise may be attributed to the passage of the National Defense Education Act of 1958, containing the provision for student loans; in the biennium 1958-60, the National Defense Student Loan Program has added a total of \$492,922.29 to the University's student loan resources.

A total of \$2,499,917.97 was disbursed in student financial aids this biennium as compared to \$1,331,215.48 in 1956-58. Of this amount, \$1,477,764.93 was in the form of loans, and \$1,022,153.04 in scholarships.

The Intercollegiate (Big 10) Conference financial aid plan was initiated in 1957-58: in the biennium 1958-60, scholarship and grant-in-aid assistance to 289 student-athletes totaled \$203,066.54.

The demand for freshman scholarships continues to increase. In the first year of the program, 1949, 112 applied; in 1956-58, 1,568 high school students who ranked in the upper *one-third* of their classes applied; and in 1958-60, 1,813 who ranked in the upper *one-fourth* applied for such aid.

Student Activities Bureau—During the 1958-60 biennium, the Student Activities Bureau supervised the programs and projects of 350 student organizations. Relationships with student leaders and members of the faculty and staff included 83,356 conferences, meetings, interviews and informal discussions as the Bureau sought to carry out its assigned functions of using the organized extracurricular program for educational and other institutional purposes. Administrative approvals for campus publicity, social programs, movies, scholastic eligibility and off-campus speakers totaled 32,329 and during the biennium student groups, under the guidance of the Activities Bureau, raised a total of \$94,398.33 from charitable projects and drives.

Major developments included a revision of the policy of women's hours excluding women students, 21 years old and over, from hours restrictions and

a revision of the policy on discriminatory membership clause to exclude religious organizations. The Activities Bureau completed a survey of student headquarters group facilities for the Senate Committee on Student Affairs. The unapproved publication of the student paper *Fester* by Sigma Delta Chi resulted in the clarification of judicial procedures.

The single most important development of the biennium for the Activities Bureau, however, was the replacement of the All-University Congress by the Minnesota Student Association, a student government structure based upon a concept of a University community which includes students, staff, and faculty members as co-participants.

The financial status of student organizations for each year of the biennium is:

	1958-59	1959-60
Deposits	\$592,534.00	\$537,287.36
Withdrawals	582,629.19	554,760.30
Ending Balance	99,760.80	82,287.87

Disciplinary Counseling—During the 1958-60 biennium, complaints or charges of misbehavior against 498 students (371 males and 127 females) were reported to the Office of the Dean of Students as compared to the 1956-58 total of 509 (368 males and 141 females). The total individual case load, including recidivists, cases reopened for additional dispositions, services to closed cases, and consultation and preventive counseling cases increased from 1,091 in 1956-58 to 1,170 in 1958-60.

About 25 per cent of individual complaints reported to the Disciplinary Counseling Office during the 1958-60 biennium were classified under the disorderly conduct category and 21 per cent under the miscellaneous category, which includes such items as inter-college cases of scholastic dishonesty, possession or consumption of liquor on the campus, misuse of privilege, and emotionally-disturbed students. About 16 per cent of the complaints were of the nature of minor misconduct; 15 per cent of theft; 10 per cent of admission applications with disciplinary records; 6 per cent of immorality; and 5 per cent of financial irregularities.

The Disciplinary Counseling Office has actively encouraged an expansion of student judiciary boards to the house or corridor level in the University residences. There were 103 of the house or corridor level and 14 of the intermediate judiciaries (including dormitories, sororities, fraternities, and co-ops) operating in June 1960 in contrast with 89 of the former and 10 of the latter in June 1959. The 1960 judiciaries held approximately 648 meetings, heard complaints against 1,285 students, and took 1,647 actions. The 1959 judiciaries held 718 meetings, heard complaints against 1,556 students, and took 1,741 actions. Approximately 70 per cent of the cases heard were violations of hours regulations for women and were heard by women residence judiciaries.

The All-University Committee on Student Behavior was convened 11 times to hear complaints against nine students and to review two actions previously taken. Two of the nine students subsequently appealed their cases to the President. The All-University Judiciary Council met on five occasions. It heard charges against four members of a journalism fraternity, which published on one occasion a humor-type newspaper.

Speech and Hearing Clinic—During the 1958-60 biennium, 1,100 persons received therapy in the Speech and Hearing Clinic. The clinic also made 12,644 individual speech and hearing appraisals. Of these, 9,988 were for new students and 2,656 were for College of Education students.

Approximately 108 graduate and undergraduate students obtained training and supervision of clinical practice in the clinic.

Student Counseling Bureau—The Student Counseling Bureau provided professional counseling, testing, and teaching services to University students and consultation to University staff and faculty, public and private high school students and staff, and state and community agencies. Direct counseling was provided to 2,795 individuals during 1958-59 and to 3,097 during 1959-60.

	1958-60
Total number of counseling cases	5,892
Total number of interviews	16,021
Number of psychological tests administered	673,476
Total cases in Educational Skills Clinic	867
Number of student visits to clinic	13,028
Number of case clearances	10,579

Special services were provided to agencies such as the U. S. Employment Service, the NDEA institutes, the Veterans Administration, the Educational Testing Service, and various agencies, corporations, and boards.

Significant projects undertaken included a group vocational counseling program, changes in the State-Wide Testing Program to provide more extensive counseling of junior high school students and co-ordination of the American College Testing Program.

Student Housing Bureau—The residential status of students enrolled in the University the fall quarter of each year of the biennium was as follows:

	1958-59	1959-60
Parents' homes	9,504	9,607
Relatives' homes	559	499
Own or rent own house	2,230	2,430
Residence halls	2,787	2,789
Married student housing	611	826
Fraternalities and sororities	1,228	1,197
Apartments	4,456	4,226
Rooming houses	1,932	1,577
Friends' homes	168	*
Employers' homes	174	154
Residence not identified	129	391
	23,778	23,696

* Omitted in order to add University apartments to Commonwealth Terrace as an item.

On February 13, 1959, the Board of Regents approved modifications to the November 5, 1932 housing policy. Married students and those 21 and over were permitted to elect to remain in disapproved housing after they were notified by certified mail of the substandard condition of their residences. A report was submitted to the Regents at their June meeting to summarize the changes in numbers of students living in disapproved units in rooming houses and apartments since the Board of Regents' housing policy change on February 13, 1959. The report showed that the number of students living in disapproved accommodations has increased from 72 in 1958-59 to 114 in 1959-60. Although fewer students lived in rooming houses and apartments in 1959-60 than for the previous year as well as a decrease of 668 married students living in apartments, there were more students living in disapproved quarters.

Personal interviews with students to assist them in securing approved housing decreased during the biennium. There was a 15 per cent decrease in married student enrollment in 1959-60 and a decrease in upper class students, so there was a corresponding decrease in students seeking private housing. There was an increase in referrals to University residences where more living spaces were available. The number of students living in apartments did not show an increase this year, but the ratio of students in apartments to those in rooming houses continued as in the past biennium.

	1958-59	1959-60
Interviews with householders	2,108	1,707
Interviews with students	6,793	5,588

The reduction in number of interviews with students and householders was affected by reduction in professional staff. The number of householders with units occupied during the fall quarter was 3,602 in 1958-59 and 2,723 in 1959-60. There were 572 householders with disapproved units in June 1959, as compared to 661 in June 1960. Enforcement of the Minneapolis Housing Maintenance Code of 1956 increased the disapproved units.

The number of Health Service inspections requested dropped from 805 in 1958-59 to 427 in 1959-60. Inspections were largely restricted to only those residences that had never been inspected and re-checks were done on a limited basis. Additional staff work with disapproved units and students in disapproved units as the result of the housing policy change on February 13, 1960, caused some procedural changes. Reduction in staff also affected the number of inspections requested. The staff made 1,061 referrals to other offices in 1958-59 and 753 referrals in 1959-60. Sixty-six per cent of the referrals were to University residences in 1959-60, which is a 16 per cent increase over the previous biennium. There were 257 complaints against students and householders in 1958-59 and 189 in 1959-60. The reduction in referrals and complaints is directly related to reduced staff and fewer students in private housing.—EDMUND G. WILLIAMSON, *dean*

UNIVERSITY OF MINNESOTA LIBRARIES

Development of the Library's Resources—On June 30, 1960 the holdings of the University of Minnesota Libraries totaled 1,968,101 volumes. Of these, 1,882,930 volumes comprised the collections in libraries on the University's Twin City campuses. In 1958-59, 42,938 volumes were added, and in 1959-60 the additions totaled 43,227. Before the end of the next biennium, the University's library holdings will have passed the 2,000,000 mark.

The Book Budget Crisis—As was pointed out in the last biennial report, the inadequacy of the book fund in relation to the increased demands being made upon it was beginning to become serious. During the biennium 1958-60 this situation became critical, and the Library's needs were fully presented to President Morrill so that a solution might be worked out. The presentation cited ten major causes of increased library costs that have contributed to the problem. These include such factors as rising book and periodical prices, the increase in publishing output, the establishment of a great many new scholarly journals, new and costly microcopy projects for reproducing basic research materials, new University programs and fields of research requiring library collections, and the increased demands caused by rising graduate enrollment and in intensified emphasis on research throughout the University.

In January 1960, because a large portion of the Library's book budget is dependent upon income, it became necessary to hold up all book ordering temporarily until additional funds became available to replenish the budget for the second half of the year. In April the Board of Regents took steps to alleviate this problem by including \$1.50 for library books in the student incidental fee, to become effective in the fall of 1960. The income from this library fee should go far in meeting the increased needs which have overburdened the book budget in recent years.

Library Planning and Campus Expansion—Continued study, consultation with academic departments, and internal discussion of various building and space alternatives were carried forward actively during the biennium, as the University's plans for expansion to the West River area began to crystallize. In the course of meetings with various groups most directly concerned, the construction of a major new library, centrally located in the new area, was recommended to serve the needs of the thousands of students and faculty members whose future activities would be concentrated there. As more and more teaching is scheduled for the West River site, substantial collections of currently needed material, and extensive provisions for student and faculty study facilities will have to be provided in the proposed West River library. To this end an item of nearly \$3,500,000 was included in the University's building request for 1961, as it was presented to the Legislative Interim Building Commission in the spring of 1960. This was to provide for the first unit of the Library's facilities which would eventually be required to meet the needs of all schools and colleges to be housed in the West River area.

Operational Highlights for the Biennium—No dynamic organization remains static, and the University Library system is no exception. During the

biennium several changes occurred to improve service or efficiency, or to meet needs that had never adequately been taken care of before.

Keeping the faculty and students informed of current library acquisitions always presents a problem in an institution as large as the University of Minnesota. In 1958, in the interest of improving such communication, the Library inaugurated a monthly series of book-lists entitled *Recent Additions to the University of Minnesota Libraries*. These lists are issued in two series, one for "the sciences" and another for "the humanities and social sciences." These lists are distributed to all academic departments and are placed, as issued, on the Library's various service counters.

During the biennium the entire purchasing and accounting procedure of the acquisitions department was analyzed and a system permitting the Library to keep much more efficient business records was installed.

Every large library is frequently asked to have copies made of various books and articles, both in the case of non-circulating reference volumes, and in response to requests received by mail from other libraries. To meet this need, the "Instant Copy Service" was established in the Library in the fall of 1958. It is administered by the Department of Audio-Visual Education, but it provides the Library and its patrons with a most convenient facility for the quick copying of library material right within the building.

During the biennium several changes in space use occurred, to house new functions and to provide better housing for existing library units. In 1958, space for a newspaper library was finally completed by excavating and finishing the Library's sub-basement. Here the Library's collection of 14,181 bound volumes and some 17,727 microfilm reels of newspapers from all over the world are maintained. Among the important papers available in the collection, and with runs dating well back into the nineteenth century, are the *New Orleans Times-Picayune*, the *New York Times*, the *Chicago Tribune*, the *Atlantic Constitution*, the *Minneapolis Tribune*, the *St. Paul Pioneer Press*, *Christian Science Monitor*, *London Times*, and the *Detroit News*.

The most important new library construction to take place during the biennium has been the building of the new Bio-Medical Library in Diehl Hall, which should be ready for occupancy by the end of 1960. In the planning stage, but not yet under construction, is a library storage warehouse for less used holdings, to be built as part of an addition to the Chemical Storehouse, in 1961, in the Como-University Village area.

When the Bio-Medical Library moves to Diehl Hall, the space released, including stack areas and some two hundred seats for readers, will be used to house a new education library, since the College of Education has long needed such a library to meet the needs of the large clientele of students, faculty members, and research workers who need more convenient access to the literature of education. It is expected that this unit will also include the Library's collections in psychology and certain other related subjects. Among other library units involved in plans for new quarters during the biennium have been the mines library, moved in 1959 to the Chemical Engineering building, to comprise a combined mines-chemical engineering library, the architecture library, which will have attractive, ground floor space in the new Architecture building, due for completion in 1960, and the pharmacy library, slated to move to Appleby Hall, in the quarters formerly occupied by the mines library.

In May 1959, the main or central University library building, constructed in 1923-24, was named officially the Walter Library, in honor of Frank K. Walter, University librarian who saw the building come to completion, and who administered its services until his retirement in 1943.

Developments among the University's special library collections during the biennium included the establishment of the Department of Special Collections, under James M. Kingsley, Jr., with headquarters in Room 108 Walter Library, the continued development and growth of the James Ford Bell Collection and the Kerlan Collection of Children's Literature, through the generosity of the respective donors, and the enrichment of the Paul Bunyan Collection by the deposit of the personal papers of William Laughead, the first advertising artist to apply the Paul Bunyan theme to logging industry promotion, and the original handwritten manuscripts of James Stevens, the

creator of Paul Bunyan as a literary figure, through the publication of his Paul Bunyan short stories back in 1924.

Among the particularly significant gifts received by the Library during the biennium were the collection of books and journals on orchids, from the late George C. VanDusen, of Excelsior, the papers of the philosopher Franz Brentano, received on microfilm from his estate, and a rich collection of books designed by Lester Douglas, one of America's most distinguished typographers, obtained through the good auspices of Dr. Kerlan.

Problems and Needs—During the biennium the inability of the Library to expand its facilities and services as demands and use increased, confronted the library administration with problems that still remain to be solved.

During the year the facilities for study in the Library were strained beyond capacity. Typically, from 9:30 a.m. to 4:00 p.m. on weekdays, every seat in the various libraries and reading rooms would be occupied, and students would go from one library to another looking for a place to sit down. Many students took the stairways and to classrooms vacant for a given hour to find places to study.

At the expense of its own work space, the Library set up a sizeable area for study in the basement of the Walter Library building, and, to relieve the crowding of the Institute of Technology Libraries, a similar study hall was established in Main Engineering. Unfortunately, while those facilities were very popular with the students, the few additional seats they provided made little impact on the total problem. Many more study halls will be required before any really effective solution is found. This is one of the special space problems peculiar to this University, because of the large proportion of the students who commute, with resulting free periods for study between classes before leaving the campus in the late afternoon.

Other service problems that became noticeable during the biennium were the inadequacy of the system for getting books from the main library stacks to cope with the service load at the circulation desk, and the perennial question of extending the hours of opening for the convenience of persons needing library service after 10:00 p.m. and for several hours on Sundays.

Owing perhaps to the increase in registration for upper division courses and for graduate work, the number of students kept waiting at the circulation desk on busy days would total as many as 40 or 50 at various times. In the aggregate, hundreds of students' hours are spent thus in just waiting. The Library is now studying the possibility of obtaining additional staff to speed the stack service, or opening the stacks liberally for self-service by students.

Repeatedly during the past biennium student groups have called upon the Library to extend its hours to 11:00 p.m. or midnight daily and to offer Sunday service. The St. Paul Campus Library, following the lead of the Law Library, finally began Sunday afternoon service last year. It may well become necessary similarly to extend the hours of the Walter Library in due course. However, the problem of financing the staffing of the numerous service points required to open the Walter Library is of such magnitude that nothing can be done significantly to extend hours of opening without additional budget for this purpose.

Toward the end of the biennium authorizations were placed for the construction of a book return chute on the first floor of Walter Library, as a first step in the direction of easing the patrons' problem in getting books back to the stacks. Eventually it is hoped that some sort of outside book return device, with curb service for drive-in patrons, may become a reality.

During the biennium a good number of studies were made of individual library problems, such as the Library's facilities for recreational reading, the need for a documents room, the use of the periodical collection, the Library's service to local industry, the Library's financing of inter-library loan service, the use of the Engineering Library, and like questions. During the coming biennium the Library will be deeply engaged in further studies to find ways to increase student access to books, to provide increased study facilities for graduate students and faculty research, and to assure good library facilities and services on both sides of the Mississippi River.—E. B. STANFORD, *director*

OFFICE OF ADMISSIONS AND RECORDS

The Office of Admissions and Records devoted an increasing portion of its resources to providing operational data for more effective action by college and administrative units and to collaboration in studies and researches designed to serve similar purposes. Examples of the first activity were the development in the room scheduling office of building space programs for several teaching departments and aid given by the Recorder's staff to the committee advising on the Morris Campus. The office fostered research on such matters as the causes for student drop out and the probable rate of growth of the University. It stimulated college review of admission criteria and thresholds in inquiry into use of improved instruments for student selection. The diversity of student characteristics of interest to our different faculties was illustrated by data from the admissions office. A number of supplemental studies of class profiles were made available to the University or to outside agencies. Additional information was prepared for prospective University students or for use by school counselors and steps were taken to systematize the distribution of that information.

The staff continued its extensive participation in the committee work of the University, in addition to supporting activities of the Board of Admissions, the Board of (Residency) Review, the Committee on Relationships with Prospective Students, and the Committee on Building Space Allocation, groups set up to serve with this unit. Concerted efforts were made to regularize certain work of student admission and record keeping on the different University campuses, especially that wherein punched cards could be used and exchanged. Further mechanization of these offices was studied and plans for this were set into operation, within the limitations of resources available.

Korean veterans largely under the benefits of Chapter 33 of Title 38, U. S. Code (formerly Public Law 550), are not identified in the tabulations which follow, inasmuch as these veterans paid their fees as regular students. They averaged about 3,800 during the 1958-59 year and about 2,500 during 1959-60. Disabled veterans from World War II and from the Korean Conflict, in training under Chapter 31, Title 38, of the U. S. Code (formerly Public Laws 16 and 894), were 67 in number through 1958-59 and 36 through 1959-60. Services for these student-veterans included authorizing their books and supplies as well as billing for tuition and fees. Service offered to children of veterans who died of injury or disease resulting from military service, has doubled since the last biennium. Students attending under Chapter 35, Title 38, U. S. Code (formerly Public Law 634), increased to 61 through 1958-59 and to 87 through 1959-60. This office continued to provide Selective Service Boards with information and certification on students enrolled under educational deferment, a group that averaged about 2,500 during the biennium. A variety of other services were performed for students whose status indirectly involved veterans' rights or military service.

Annual Enrollment—The University served a record-breaking total of 84,220 different persons in 1958-59 and 87,596 in 1959-60 (Table V). All categories of students increased except those in the Schools of Agriculture, where all except the Southern School at Waseca showed declines. The day-college enrollment for the academic year and summer session (Table I) was 36,371 in 1958-59 and 36,923 in 1959-60 compared to 34,900 in the second year of the previous biennium, a continuance of the trend of increasing numbers of students that began in 1951. This trend is expected to prevail for a decade and beyond as a result of increased birthrate and an increasing proportion of high school graduates seeking higher education.

Enrollment in the Day Colleges—(Table I)—During the present biennium, the academic-year, day-college enrollment has increased from 29,933 in 1957-58 to 30,955 in 1958-59, continuing essentially unchanged at 30,904 in 1959-60, an over-all increase of 7 per cent. The greatest growth during this period was in Graduate School students, up 17 per cent, and in Duluth campus students, up 9 per cent. A notable exception was in the Institute of Technology where the number of students decreased 11 per cent.

Men and Women—Although the enrollments of both men and women students increased during the biennium, there was a slight decrease in the proportion of men. The composition of the student body was approximately 72 per cent men compared with 73 per cent men during the previous biennium. (Table I)

Out-of-State Enrollment—(Tables XA, XB)—The proportion of out-of-state students in the total student body has continued to be 14 per cent. The Graduate School, the School of Public Health, and the College of Veterinary Medicine have the largest ratios of non-residents to residents, with no significant change from the previous biennium. The percentage of nonresident students in these units in 1959-60 was 50, 51, and 34 respectively. Foreign students totaled 1,015 in 1958-59 and 1,112 in 1959-60 which was about 3 per cent of the total student body, the same percentage as during the previous biennium. The student body of the University is made up primarily, 86 per cent, of Minnesota residents.

New Matriculants—The number of new students at the University was 8,268 in 1958-59 and 8,259 in 1959-60 compared with 8,073 in 1957-58. The 1959-60 enrollment of new students included 5,958 freshmen and 2,301 advanced standing students compared to 5,703 and 2,370, respectively in 1957-58, the increase in freshmen offsetting a slight decrease in advanced standing students. (Tables VIIIA, VIIIB, IXA, IXB)

Source of Matriculants—Approximately 94 per cent of the entering freshmen in 1959-60 were from Minnesota high schools compared to 92 per cent in 1957-58. Of these, in 1959-60, 23 per cent were from Minneapolis Public Schools, 11 per cent from St. Paul Public Schools, 56 per cent from other public schools in Minnesota, and 10 per cent from Minnesota private schools. In 1957-58, the percentages were the same except for Minneapolis Public Schools, 25 per cent, and from other public schools in Minnesota, 54 per cent. The growth in high school enrollment in the Minneapolis suburbs is the primary cause of this change.

The proportion of advanced standing students entering from Minnesota colleges was 61 per cent in 1959-60 compared to 56 per cent in 1957-58, reflecting 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 University granted 5,718 degrees in 1958-59 and 5,785 in 1959-60 (Table VIIA). This is a continuance of the trend of increasing numbers of degrees that is expected to extend into the foreseeable future.

Summer Sessions—Enrollment in the summer was 12,085 different persons in 1958 and 12,805 in 1959, an increase over the previous biennium. Second term enrollment was approximately 69 per cent of the first, continuing a trend of larger enrollments in the second term. (Table I)

Extension Division—Evening class enrollment (Table IVA, General Extension) was 14,333 in 1958-59 and 13,851 in 1959-60, continuing a decline from the previous biennium. Extension short course enrollment increased sharply from 1,743 in 1958-59 to 4,109 in 1959-60. Attendance at the Center for Continuation Study (Table IVB) also increased from 9,777 in 1958-59 to 10,550 in 1959-60. There was substantial growth in Correspondence Study (Table IVA) from 8,042 in 1958-59 to 8,240 in 1959-60.

Subcollegiate Enrollments—During the biennium there was no significant change in enrollments in the University High School, the Duluth Laboratory School, the Elementary School, and the Nursery School. The Schools of Agriculture enrollments were generally the same or slightly lower with the exception of that at the Southern School at Waseca which showed a slight increase. 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, 1958-60

College or School	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General College								
Second Year	848	188	1,036	976	219	1,195	159	
First Year	1,359	328	1,687	1,168	333	1,501		186
Adult Special	77	17	94	106	20	126	32	
Totals	2,284	533	2,817	2,250	572	2,822	5	
University College								
Senior	25	18	43	23	15	38		5
Junior	11	11	22	12	16	28	6	
Sophomore	4	3	7	3	4	7		
Adult Special	2	1	3	3	2	5	2	
Totals	42	33	75	41	37	78	3	
Science, Literature, and Arts								
Senior	1,061	334	1,395	1,030	450	1,480	85	
Junior	1,098	466	1,564	1,014	469	1,483		81
Sophomore	1,630	838	2,468	1,562	875	2,437		31
Freshman	1,612	1,010	2,622	1,621	1,071	2,692	70	
Adult Special	306	199	505	286	174	460		45
Totals	5,707	2,847	8,554	5,513	3,039	8,522		2
Institute of Technology								
5th year	557	3	560	596	2	598	38	
4th year	740	3	743	683	4	687		56
3rd year	838	5	843	741	6	747		96
2nd year	827	9	836	767	7	774		62
1st year	816	11	827	805	14	819		8
Adult Special	117	3	120	170	3	173	53	
Totals	3,895	34	3,929	3,762	36	3,798		131
Agriculture, Forestry, and Home Economics								
Senior	277	137	414	270	117	387		27
Junior	271	114	385	246	117	363		22
Sophomore	430	187	617	402	210	612		5
Freshman	380	169	549	354	171	525		24
Adult Special	71	42	113	71	43	114	1	
Totals	1,429	649	2,078	1,343	658	2,001		77
Law School								
Senior	85	2	87	78	1	79		8
Junior	53	1	54	37		37		17
Sophomore	64		64	63	1	64		
Freshman	76	2	78	85	4	89	11	
Adult Special	1		1	1		1		
Totals	279	5	284	264	6	270		14
Medical School								
Senior	110	7	117	121	5	126	9	
Junior	121	5	126	115	4	119		7
Sophomore	119	4	123	117	10	127	4	
Freshman	123	12	135	129	8	137	2	
Adult Special	4		4		1	1		3
Totals	477	28	505	482	28	510	5	
Medical Technology								
Senior	2	30	32		32	32		
Junior		35	35	1	31	32		3
Adult Special		9	9	1	19	20	11	
Totals	2	74	76	2	82	84	8	

BIENNIAL REPORT

TABLE I.—Continued

College or School	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Occupational Therapy								
Senior		23	23		14	14		9
Junior		14	14	1	21	22	8	
Adult Special		1	1	1	1	2	1	
Totals		38	38	2	36	38		
Physical Therapy								
Senior	4	10	14	2	10	12		2
Junior	2	11	13	3	17	20	7	
Adult Special	1	1	2	1	1	2		
Totals	7	22	29	6	28	34	5	
School of Public Health								
Senior	64	65	129	78	65	143	14	
Junior		14	14		23	23	9	
Sophomore		32	32	1	17	18		14
Adult Special	33	40	73	38	47	85	12	
Totals	97	151	248	117	152	269	21	
School of Nursing								
3rd year	1	120	121	1	126	127	6	
2nd year		90	90		80	80		10
1st year	1	138	139	1	100	101		38
Affiliate		70	70	1	50	51		19
Adult Special	2	26	28	1	25	26		2
Totals	4	444	448	4	381	385		63
School of Dentistry								
Senior	87		87	90		90	3	
Junior	91		91	94		94	3	
Sophomore	94		94	86		86		8
Freshman	97		97	99		99	2	
Adult Special	3		3	2		2		1
Totals	372		372	371		371		1
Dental Hygiene								
2nd year		37	37		33	33		4
1st year		42	42		49	49	7	
Adult Special								
Totals		79	79		82	82	3	
Pharmacy								
Senior	23	3	26	24		24		2
Junior	28	1	29	33	6	39	10	
Sophomore	35	5	40	36	7	43	3	
Freshman	27	8	35	28	6	34		1
Adult Special	2		2	3		3	1	
Totals	115	17	132	124	19	143	11	
Education								
Senior	402	724	1,126	464	721	1,185	59	
Junior	342	558	900	262	537	799		101
Sophomore	132	398	530	96	343	439		91
Freshman	97	313	410	87	297	384		26
Adult Special	271	307	578	255	298	553		25
Totals	1,244	2,300	3,544	1,164	2,196	3,360		184
Business Administration								
Senior	493	13	506	412	12	424		82
Junior	412	18	430	411	13	424		6
Adult Special	40	5	45	27	2	29		16
Totals	945	36	981	850	27	877		104

TABLE I.—Continued

College or School	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Graduate School								
Mpls., St. P. and Dul.	3,815	783	4,598	3,947	805	4,752	154	.....
Mayo	560	15	575	614	17	631	56	.....
Totals	4,375	798	5,173	4,561	822	5,383	210	.....
Veterinary Medicine								
Senior	46	.....	46	42	2	44	.....	2
Junior	42	2	44	42	1	43	.....	1
Sophomore	44	1	45	41	.....	41	.....	4
Freshman	43	.....	43	46	.....	46	3	.....
Adult Special	.....	.....	.....	.....	.....	.....	.....	.....
Totals	175	3	178	171	3	174	.....	4
Duluth Campus								
Senior	356	146	502	369	118	487	.....	15
Junior	357	107	464	310	112	422	.....	42
Sophomore	421	158	579	424	175	599	20	.....
Freshman	565	319	884	643	384	1,027	143	.....
Adult Special	139	96	235	148	106	254	19	.....
Totals	1,938	826	2,664	1,894	895	2,789	125	.....
Total Academic								
Year	23,287	8,917	32,204	22,921	9,099	32,020	.....	184
Less Duplications	939	310	1,249	800	316	1,116	.....	133
Net Total Academic Year	22,348	8,607	30,955	22,121	8,783	30,904	.....	51
Summer Session								
First Term	6,418	3,601	10,019	6,601	3,891	10,492	473	.....
Second Term	4,396	2,105	6,501	4,678	2,334	7,012	511	.....
Totals	10,814	5,706	16,520	11,279	6,225	17,504	984	.....
Less Duplications	3,424	1,544	4,968	3,566	1,718	5,284	316	.....
Net Total Summer Session	7,390	4,162	11,552	7,713	4,507	12,220	668	.....
Mayo Graduates	519	14	533	572	13	585	52	.....
Net Total Summer Session (including Mayo)								
	7,909	4,176	12,085	8,285	4,520	12,805	720	.....
Grand Total								
	30,257	12,783	43,040	30,406	13,303	43,709	669	.....
Less Duplications	5,056	1,613	6,669	4,987	1,799	6,786	117	.....
Net Grand Totals								
Collegiate	25,201	11,170	36,371	25,419	11,504	36,923	552	.....

TABLE IIA

COLLEGIATE ENROLLMENT BY QUARTERS

1958-59

College or School	First Summer Term 1958			Second Summer Term 1958			Fall 1958			Winter 1959			Spring 1959			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
General College	176	37	213	122	29	151	1,841	456	2,297	1,755	429	2,184	1,532	395	1,927	2,381	555	2,936
University	9	15	24	7	10	17	32	24	56	31	23	54	30	27	57	45	38	83
Science, Literature, Arts	1,310	744	2,054	963	447	1,410	4,807	2,544	7,351	4,624	2,345	6,969	4,189	2,177	6,366	6,471	3,408	9,879
Institute of Technology	749	2	751	560	2	562	3,697	33	3,730	3,398	24	3,422	3,123	21	3,144	4,073	34	4,107
Agriculture, Forestry, and Home Economics	191	171	362	198	57	255	1,229	587	1,816	1,230	545	1,775	1,032	515	1,547	1,524	747	2,271
Law School	124	5	129	120	6	126	286	5	291	274	4	278	256	3	259	302	9	311
Medicine	376	19	395	22	4	26	477	27	504	475	26	501	467	25	492	496	30	526
Medical Technology	2	12	14	1	8	9	2	65	67	.....	59	59	.....	56	56	3	75	78
Nursing and Affiliates .....	.....	286	286	.....	258	258	2	369	371	4	353	357	3	306	309	4	532	536
Occupational Therapy	1	24	25	.....	22	22	.....	37	37	.....	37	37	.....	36	36	1	37	38
Physical Therapy .....	.....	.....	.....	.....	.....	.....	6	24	30	6	23	29	5	21	26	7	21	28
Public Health	30	151	181	52	120	172	94	116	210	91	115	206	89	100	189	111	299	410
Dentistry	52	.....	52	30	.....	30	372	.....	372	365	.....	365	359	.....	359	365	.....	365
Dental Hygiene .....	.....	3	3	.....	3	3	.....	77	77	.....	73	73	.....	64	64	.....	76	76
Pharmacy .....	.....	2	2	1	2	3	110	15	125	107	16	123	102	15	117	110	15	125
Education	561	1,137	1,698	351	581	932	841	1,805	2,646	910	1,738	2,648	889	1,690	2,579	1,687	3,212	4,899
Business Administration	289	12	301	193	10	203	709	29	738	744	25	769	670	28	698	1,011	43	1,054
Veterinary Medicine	1	.....	1	2	.....	2	176	3	179	174	3	177	170	3	173	170	3	173
Graduate:																		
Minneapolis, St. Paul, and Duluth	1,957	556	2,513	1,373	274	1,647	3,151	621	3,772	3,089	554	3,643	3,017	572	3,589	4,730	1,182	5,912
Mayos	519	14	533	519	14	533	523	13	536	521	14	535	506	14	520	609	18	627
Duluth Campus	590	425	1,015	401	272	673	1,595	731	2,326	1,569	654	2,223	1,395	566	1,961	2,210	1,225	3,435
Totals	6,937	3,615	10,552	4,915	2,119	7,034	19,950	7,581	27,531	19,367	7,060	26,427	17,834	6,634	24,468	26,310	11,559	37,869
Less Duplicates	91	58	149	36	14	50	181	94	275	228	104	332	220	109	329	1,109	389	1,498
Net Totals	6,846	3,557	10,403	4,879	2,105	6,984	19,769	7,487	27,256	19,139	6,956	26,095	17,614	6,525	24,139	25,201	11,170	36,371

* This represents a net count of individuals with duplicates deducted.

TABLE IIB

COLLEGIATE ENROLLMENT BY QUARTERS

1959-60

College or School	First Summer Term 1959			Second Summer Term 1959			Fall 1959			Winter 1960			Spring 1960			Total Individual Registration*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
General College	165	39	204	108	31	139	1,859	486	2,345	1,747	441	2,188	1,572	406	1,978	2,327	589	2,916
University	6	10	16	2	7	9	30	25	55	32	24	56	28	28	56	43	39	82
Science, Literature, Arts	1,306	887	2,193	943	526	1,469	4,767	2,752	7,519	4,468	2,538	7,006	4,101	2,336	6,437	6,292	3,687	9,979
Institute of Technology	691	9	700	512	8	520	3,603	33	3,636	3,271	32	3,303	2,959	30	2,989	3,960	41	4,001
Agriculture, Forestry, and Home Economics	152	183	335	192	65	257	1,134	583	1,717	1,103	548	1,651	976	530	1,506	1,420	749	2,169
Law School	80	3	83	83	3	86	265	6	271	257	4	261	239	5	244	266	7	273
Medicine	416	19	435	59	2	61	482	29	511	479	27	506	474	25	499	536	26	562
Medical Technology .....	.....	14	14	.....	12	12	.....	78	78	1	71	72	2	61	63	2	78	80
Nursing and Affiliates	4	278	282	4	255	259	3	338	341	1	324	325	1	231	232	7	491	493
Occupational Therapy .....	.....	14	14	.....	14	14	1	35	36	1	34	35	1	30	31	1	28	29
Physical Therapy .....	.....	.....	.....	.....	1	1	6	28	34	5	26	31	5	26	31	6	29	35
Public Health	77	153	230	58	150	208	108	111	219	112	104	216	108	99	207	163	301	464
Dentistry	65	.....	65	27	.....	27	370	2	372	369	.....	369	357	.....	357	361	.....	361
Dental Hygiene .....	.....	5	5	.....	5	5	.....	83	83	.....	72	72	.....	68	68	.....	81	81
Pharmacy	8	2	10	10	2	12	120	15	135	119	14	133	113	16	129	114	19	133
Education	610	1,215	1,825	359	618	977	847	1,720	2,567	855	1,632	2,487	794	1,617	2,411	1,670	3,145	4,815
Business Administration	248	12	260	174	7	181	596	22	618	636	19	655	631	16	647	923	36	959
Veterinary Medicine	22	2	24	22	.....	22	173	3	176	170	3	173	168	3	171	159	3	162
Graduate:																		
Minneapolis, St. Paul, and Duluth	2,181	584	2,765	1,614	322	1,936	3,227	637	3,864	3,156	615	3,771	3,139	571	3,710	5,098	1,232	6,330
Mayos	572	13	585	572	13	585	576	14	590	568	13	581	556	13	569	672	18	690
Duluth	570	462	1,032	511	306	817	1,649	810	2,459	1,559	701	2,260	1,434	654	2,088	2,340	1,326	3,666
Totals	7,173	3,904	11,077	5,250	2,347	7,597	19,816	7,810	27,626	18,909	7,242	26,151	17,658	6,765	24,423	26,360	11,925	38,285
Less Duplicates	74	60	134	32	30	62	184	83	267	201	88	289	176	91	267	941	421	1,362
Net Totals	7,099	3,844	10,943	5,218	2,317	7,535	19,632	7,727	27,359	18,708	7,154	25,862	17,482	6,674	24,156	25,419	11,504	36,923

* This represents a net count of individuals with duplicates deducted.

TABLE III SUB-COLLEGIATE ENROLLMENT 1958-60

School or Course	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
School of Agriculture, St. Paul								
Senior	41	8	49	38	12	50	1	
Junior	76	27	103	69	20	89		14
Freshman								
Unclassed	38	2	40	28	2	30		10
Totals	155	37	192	135	34	169		23
Northwest School and Station, Crookston								
Senior	85	10	95	81	23	104	9	
Junior	95	23	118	90	14	104		14
Sophomore	91	16	107	70	14	84		23
Freshman	52	18	70	42	10	52		18
Unclassed								
Totals	323	67	390	283	61	344		46
West Central School and Station, Morris								
Senior	45	19	64	60	19	79	15	
Junior	69	20	89	50	17	67		22
Sophomore	54	20	74	50	19	69		5
Freshman	58	17	75	37	12	49		26
Unclassed	1	3	4		5	5	1	
Totals	227	79	306	197	72	269		37
North Central School and Station, Grand Rapids								
Senior	15		15	34		34	19	
Junior	35		35	15		15		20
Sophomore	9		9	15		15		6
Freshman	10		10	15		15		5
Unclassed								
Totals	69		69	79		79	10	
Southern School and Station, Waseca								
Senior	38	4	42	38	13	51	9	
Junior	46	12	58	47	18	65	7	
Sophomore	44	17	61	38	21	59		2
Freshman	30	19	49	40	13	53	4	
Unclassed	3	2	5	2		2		3
Totals	161	54	215	165	65	230	15	
University High School,								
Minneapolis	238	229	467	235	233	468	1	
Nursery School, Minneapolis	38	34	72	38	36	74	2	
Kindergarten, Minneapolis	11	14	25	15	10	25		
Elementary School,								
Minneapolis	68	83	151	69	83	152	1	
Laboratory School, Duluth	116	105	221	123	109	232	11	
Net Totals Schools	1,406	702	2,108	1,339	703	2,042		66
Short Courses, School of Agriculture, St. Paul								
Ag. Policy Workshop	25		25					25
Aircraft Sprayers	71		71	69		69		2
Alumni Institute	345	285	630	206	169	375		255
Animal Nutrition	171		171	147		147		24
Antibiotics in Milk				57	4	61	61	
Beef Cattle—Grassland Field								
Day	283		283	349	4	353	70	
Beekeepers	19	4	23	20	2	22		1
Bovine Mastitis	34		34					34
Boys State	362		362	400		400	38	
Chicago Farmers				50		50	50	
Concrete Drain Tile Mig.	50	1	51	50	1	51		
Dairy Herd Improvement	67	4	71	42	5	47		24
Dairy Products	469		469	414		414		55
Dome Club		33	33					33
Editors	105	10	115	60	6	66		49
Fair Management	50	17	67	51	10	61		6

DIVISIONS OF ACADEMIC ADMINISTRATION

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TABLE III—Continued

School or Course	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Farm and Home Week	3,000	1,000	4,000	2,625	875	3,500		500
Farm Electrification	67		67	41		41		26
Farm Income Tax	396		396	314	60	374		22
Farm Mutual Ins. Co.				111	10	121		121
F.F.A. Convention	2,000		2,000	2,000		2,000		
F.F.A. Dist. 8 Contest				150		150		150
Flock Selecting and Pulorum Testing	109	3	112	118	4	122	10	
Flower Arranging		85	85					85
4-H Club Week	224	497	721	230	515	745	24	
Garden Store				198	43	241	241	
Grain Elevator Operators				5		5		5
Grain Ext. Conf.				37		37		37
Grain Storage Workshop	23		23					23
Great Plains Hort. Conf.	75	23	98					98
Hardwood Lumber Graders	16		16					16
Home Econ. Career Day		240	240		218	218		22
Horticulture	170	190	360	170	146	316		44
Irrigation	11		11					11
Land Improvement	94		94					94
L-P Gas	115		115	91		91		24
Lumbermen's 4-Week Marketing	48		48	48		48		
				30		30		30
Minn. Alumnae Club		71	71					71
Minn. State Fire School	186		186	310		310	124	
Nitrogen Conf.				222	2	224	224	
Parents and Visitors Day	92	86	178	87	80	167		11
Retail Feed Dealers	47		47	16		16		31
Rose Growers	23	61	84	55	110	165	81	
Rural Life Institute	75		75					75
Rust and Chemical Control	81		81					81
School Lunch Workshop	7	217	224		258	258	34	
Soils and Fertilizer	504		504	426		426		78
State Rural Youth	34	38	72					72
Swine Feeders Day	246	1	247	163		163		84
Veterinarians, Graduate				89		89		89
Weed and Seed Inspection	124		124	87		87		37
Totals	9,818	2,866	12,684	9,538	2,522	12,060		624
Northwest School of Agriculture, Crookston								
4-H Club	224	350	564	341	221	562		2
Women's Week		65	65		67	67	2	
West Central School and Station, Morris								
4-H Club	359	421	780	331	416	747		33
Homemaker's Workshop		335	335		273	273		62
Lamb Feeder's Day	453		453	448		448		5
Livestock—Corn and Soybean Day	214		214	169		169		45
Station Day				50	697	747	747	
North Central School and Station, Grand Rapids								
4-H Club	136	209	345	138	199	337		8
Homemakers Camp		54	54	2	47	49		5
Southern School and Station, Waseca								
Acetylene Welding Course				10		10		10
Arc Welding Course				24		24		24
Electricity Course				15		15		15
Total Short Courses	11,204	4,290	15,494	11,066	4,442	15,508	14	
Net Totals, Schools and Short Courses	12,610	4,992	17,602	12,405	5,145	17,550		52

TABLE IV A

EXTENSION ENROLLMENT

1958-60

School or Course	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
General Extension	8,442	5,891	14,333	8,449	5,402	13,851		482
Extension Short Courses								
Anatomy and Medical								
Terms	130	126	256	48	128	176		80
Arbitration	14		14					14
Badminton				14	8	22	22	
Basic Arrest and Criminal								
Investigations				102		102	102	
Basic Science for X-Ray								
Technique	15	107	122	27	86	113		9
Better Letter Course	104	39	143	153	52	205	62	
Better Technical Writing	41	1	42	35	1	36		6
Birds of Minnesota				4	7	11	11	
Business English Review					25	25	25	
Business Law				19	9	28	28	
Byzantium, The Glory of				208	286	494	494	
Care of Dogs				2	10	12	12	
Civil Engineers	24		24	5		5		19
CLU Labor Law				28	7	35	35	
Collective Bargaining	18	5	23					23
Credit Union Personnel				30	17	47	47	
Criminal Invest. and Proced.	15		15					15
Criminal Proced. and Traf.	27		27					27
Critical Thinking in								
Contemp. Issues					33	33	33	
CWA Conference	53	28	81					81
Efficient Reading	74	31	105	38		38		67
Electrical Engineers	10		10	17		17	7	
Exercise for Relaxation					11	11	11	
Exploring Our Nat. Parks	11	12	23					23
Federal Income Tax				47	2	49	49	
Flying Farmers Workshop	18	1	19					19
Golf				110	235	345	345	
Highway Drainage				51		51	51	
Hydraulics				1		1	1	
Int'l. Union of Operating								
Engineers				1		1	1	
Labor Legislation	31	2	33					33
Legal Secretaries				1	139	140	140	
Man and His Scientific								
Quest	253	54	307	169	20	189		118
Mechanical Engineers	19		19	33		33	17	
Minnesota Chippewa	8	19	27	7	7	14		13
Motor Learning				9	108	117	117	
Movement Education					6	6	6	
New Labor Laws				35		35	35	
Opera Workshop		6	6					6
Pediatrics	20	2	22					22
Police Oper. and Traffic	33		33					33
Profitable Mgt.	35	1	36					36
Public Speaking	8		8					8
Rapid Reading				8	22	30	30	
Release of Tension and								
Mod. Living	19	81	100					100
Sales Mgt.	38		38					38
Space Tech.	65		65					65
Steward Training	68	25	93					93
Structural Design for								
Architects	15		15	10		10		5
Swimming				319	562	881	881	
Temper of the Twenties				217	270	487	487	
Tennis					26	26	26	
Union Adm.				87	1	88	88	
Union Leadership Tr.	40		40					40
Wild Game of Minn.				8	2	10	10	
Your Trip to Europe				41	145	186	186	
Total Short Courses	1,203	540	1,743	1,884	2,225	4,109	2,366	
Correspondence Study	4,592	3,450	8,042	4,565	3,675	8,240	198	
Grand Total, Extension	14,237	9,881	24,118	14,898	11,302	26,200	2,082	
Less Duplicates	401	22	623	388	214	602		621
Net Grand Totals	13,836	9,659	23,495	14,510	11,088	25,598	2,103	

TABLE IV B CENTER FOR CONTINUATION STUDY ENROLLMENT 1958-60

School or Course	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Adv. Safety Eng.	33		33	29	1	30		3
Alcohol Education	28	9	37					37
Allergy	58	5	63					63
Architects				22		22	22	
Arithmetic	5	21	26					26
Aseptic Technique		66	66	14	123	137	71	
Assessors School	218	15	233	217	12	229		4
Audio-Visual Inst.	61	5	66	60	13	73	7	
Automotive Crash and Field Dem.				53	1	54	54	
Bituminous Conf.	214		214	170		170		44
Building Inspectors	46		46	42	1	43		3
Bus. Mgt. in Public Health	14	5	19	18	1	19		
Bus. Mgt. for Pub. Hlth.								
Officials				37	1	38	38	
Cancer Detection	57		57	22		22		35
Cardiovascular Diseases				49	2	51	51	
Care of the Aged	54	70	124	32	62	94		30
Cerebral Palsy		77	77					77
Character Disorders	35	68	103					103
Chem. Infra-red Spectroscopy				85	6	91	91	
Child-Caring Inst.	36	72	108	39	67	106		2
Chronic Diseases				24	4	28	28	
Cinematology				24		24	24	
City Engineers Conf.	57		57	80		80	23	
City Managers School	22		22	27		27	5	
Clinical Dietetics	2	113	115					115
Communication Workers of America				39	36	75	75	
Community Planning for Psychiatric Patients				22	17	39	39	
Community Theater				12	27	39	39	
Company Manuals				18	1	19	19	
Concrete Conf.	168		168	182		182	14	
Consulting Engineer				39		39	39	
Consumer Credit				60	21	81	81	
Counseling of Coll. Stud.	22	15	37	17	13	30		7
County Hgwy. Eng.	94		94	86		86		8
County Welfare Directors				75	18	93	93	
Creative Arts	2	35	37	2	57	59	22	
Credit and Fin. Mgt.	80	7	87	95	5	100	13	
Credit Union Mgt.	4	3	50	54	13	67	17	
Crown and Bridge			8	7		7		1
Current Tax Prob.	73	1	74					74
Curriculum and Supervision	74	26	100	83	46	129	29	
Dental Assistants		129	129		80	80		49
Dentistry for Children	7		7	12		12	5	
Dental Prosthesis				5		5	5	
Dermatology	52	1	53	52	2	54	1	
Drilling Symposium	156		156					156
Drying Oils				44		44	44	
Educational Conference				27	18	45	45	
Educational Secretaries					126	126	126	
Electrocardiography	41	1	42	43		43	1	
Emergency Surgery	28		28	32	2	34	6	
Emotional Prob. Sch. Age Ch.		58	58					58
Employ. Security Personnel	38	28	66	23	14	37		29
Endocrinology for Physicians				72	2	74	74	
Endodontia	23		23	17	1	18		5
Evaluative Criteria	41	34	75	37	31	68		7
Exec. Sec. Co. Welf. Bds.	70	30	100					100
Family and Marriage Counsel.				44	61	105	105	
Finance Officers Sch.	62	14	76	65	26	91	15	
Foreign Econ. Policy	41	33	74					74
Foreign Lang. in Minn.				20	72	92	92	
Fractures for Gen. Phys.	33		33					33
Gifted Children				43	25	68	68	
Govt. and Politics	11	59	70					70
Gynecology	35	2	37					37
Heat Transfer	46		46					46
Highway Mgt.	173		173					173
Highway Patrol Superv.	32		32					32
Hospital Adm.	60	62	122	38	49	87		35
Hospital Recreation				22	24	46	46	
I.C.C. Safety Reg.	65		65					65

TABLE IV B—Continued

School or Course	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Industrial Eng.	27		27					27
Industrial Rel.	198		198	136	4	140		58
Ind. Rel. Labor Conf.	140	19	159	96	7	103		56
Infections in Hosp.	31	146	177					177
Internal Medicine	91	1	92	107	5	112	20	
Intn'l. Affairs				33	12	45	45	
Inventive Activity				43		43	43	
Juvenile Court Judges				72	4	76	76	
Juvenile Delinquency	41		41					41
Juvenile Offenders				79	16	95	95	
Juvenile Officers	65	15	80	23	2	25		55
Labor and World Affairs	20	68	88					88
Labor Mgt.				73	1	74	74	
Lake Superior Geology	104	1	105					105
Latin America				35	40	75	75	
Law Practice Mgt.	65	5	70					70
Machinists Leadership				46	3	49	49	
Man's Visions and Values		15	15					15
Maternity Care	82	85	167		98	98		69
Marriage Counseling				13		13	13	
Mayors and Councilmen	58	1	59	144	2	146	87	
Medical Technologists				11	83	94	94	
Mentally Retarded	70	170	240					240
Metals	66		66					66
Microbiology for Med. Tech.	14	95	109					109
Middle Mgt. Seminar				24		24	24	
Mining Symposium	501		501	743		743	242	
Minnesota Core Conf.				51	30	81	81	
Minn. Municipal Judges				57	1	58	58	
Mortuary Adm.	2	46	48					48
Multiple Restoration	15		15	12		12		3
Neurology	7	1	8	39	10	49	41	
New Labor Law				287	21	308	308	
New Drugs	35	1	36					36
Newspaper Design	58	4	62					62
Nurs. Anesthetists		32	32					32
Nurs. Education		59	59		58	58		1
Nurs. Home Adm.	30	73	103	36	60	96		7
Nurs. Professional	1	39	40					40
Nurs. Service Adm.		60	60		36	36		24
Obstetrics	43	2	45	32	6	38		7
Occupational Nurses	1	61	62		54	54		8
Oil Industry Marketers	33	5	38					38
Ophthalmology				35	4	39	39	
Oral Cancer	66		66					66
Oral Medicine	59	1	60	71		71	11	
Oral Pathology	19	1	20	22	1	23	3	
Oral Surgery	18		18	9		9		9
Organ Institute				4	8	12	12	
Orthodontia	26		26	41		41	15	
Orthopedics				76		76	76	
Otolaryngology	64	1	65	28		28		37
Parachute Eng. and Retardation	70		70					70
Parents and Fam. Life Educ.	12	179	191	22	375	397	206	
Parents of Deaf Children	8	21	29	10	22	32	3	
Pastoral Counseling	46		46	20		20		26
Pediatrics	99	12	111	85	13	98		13
Pernatal Casualties	15	43	58					58
Periodontics	70	1	71	21		21		50
Pharmacy	15	66	81	45	8	53		28
Physical Medicine	24	5	29	26		26		3
Police Chiefs	57		57	54		54		3
Premature Infant					115	115	115	
Pre-School Seminar				2	163	165	165	
Probation and Parole Wkrs.	101	25	126					126
Proctology	31		31	18		18		13
Prologue to Ballet	29	15	44					44
Psychiatry				44	3	47	47	
Public Accountants	106	2	108	140	6	146	38	
Public Health Educ.	8	14	22					22
Public Health Nursing					162	162	162	
Public School Law	117	1	118	113		113		5
Public Works Adm.	49		49	46	1	47		2
Radiographic Interpretation	9		9	8		8		1

TABLE IV B—Continued

School or Course	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Radioisotopes				136	5	141	141	
Radiology	343	14	357	451	16	467	110	
Reading Conf.	4	14	18	6	104	110	92	
Reading Efficiency	4	1	5					5
Recreation Conf.				83	9	92	92	
Rehab. Counseling	25	4	29					29
Rehab. Services	11	32	43					43
Rel. Educ. and Teenager	16	26	42					42
Retarded Children				3	36	39	39	
Right of Way Seminar				115		115	115	
Science in Elem. Sch.	6	33	39					39
Schizophrenia				231	116	347	347	
Secretarial Inst.		101	101	1	71	72		29
Sec. Sch. Adm.				147	20	167	167	
Sec. Sch. Principals	141	8	149					149
Settlement Workers	11	13	24					24
Sewage School	101		101	110	1	111	10	
Soils Conf.	137		137	116		116		21
Steel Construction	114		114					114
Steel Workers	75		75	42		42		33
Summer Labor	14	3	17					17
Surgery for Surgeons	77	2	79	100	1	101	22	
Tax Institute				104	1	105	105	
Traffic Court	62	3	65	75	1	76	11	
Trauma	75		75	58	2	60		15
Tuberculosis Nursing					78	78	78	
Univ. Counsel. Dir.	66	5	71					71
Utilization of Talent	59	23	82					82
Wastes Eng.	62		62	47		47		15
Water and Electrolyte Bal.	29		29					29
Water School	120		120	114		114		6
Water Sewage	50		50	46		46		4
World Affairs				12	14	26	26	
Totals	7,040	2,737	9,777	7,560	2,990	10,550	773	

TABLE V ENROLLMENT SUMMARY 1958-60

	Year 1958-59			Year 1959-60			Gain	Loss
	Men	Women	Total	Men	Women	Total		
Collegiate Students	25,201	11,170	36,371	25,419	11,504	36,923	552	
Sub-Collegiate Schools and Short Courses	12,610	4,992	17,602	12,405	5,145	17,550		52
Totals	37,811	16,162	53,973	37,824	16,649	54,473	500	
Less Duplicates								
Net Totals	37,811	16,162	53,973	37,824	16,649	54,473	500	
Extension	13,836	9,659	23,495	14,510	11,088	25,598	2,103	
Center for Continuation Study	7,040	2,737	9,777	7,560	2,990	10,550	773	
Grand Totals	58,687	28,558	87,245	59,894	30,727	90,621	3,376	
Less Duplicates	2,062	963	3,025	2,065	960	3,025		
Net Grand Totals	56,625	27,595	84,220	57,829	29,767	87,596	3,376	

TABLE VI COMPARATIVE ENROLLMENT FIGURES 1958-60

	1958-59			1959-60			Gain		Loss	
	Men	Women	Total	Men	Women	Total	M	W	M	W
General College	2,284	533	2,817	2,250	572	2,822			39	34
University College	42	33	75	41	37	78			4	1
Science, Literature, and Arts	5,707	2,847	8,554	5,513	3,039	8,552			192	194

TABLE VI—Continued

	1958-59			1959-60			Gain		Loss	
	Men	Women	Total	Men	Women	Total	M	W	M	W
Institute of Technology.....	3,895	34	3,939	3,762	36	3,798		2	133	
Agr., For., Home Ec., and Vet. Med. (including schools of Ag. short courses).....	13,743	5,179	18,922	13,439	5,335	18,774		156	304	
Law School.....	279	5	284	264	6	270		1	15	
Medicine (including Med. Tech., Nursing, Phys. and Occup. Therapy, and Public Health).....	587	757	1,344	613	707	1,320	26			50
Dentistry (including Dent. Hyg.).....	372	79	451	371	82	453		3	1	
Pharmacy.....	115	17	132	124	19	143	9	2		
Education (including High School, Nursery and Kindergarten, and Ele- mentary Grades).....	1,715	2,765	4,480	1,644	2,667	4,311			71	98
Business Administration.....	945	36	981	850	27	877			95	9
Graduate School (includ- ing Mayos).....	4,375	798	5,173	4,561	822	5,383	186	24		
Duluth Campus.....	1,838	826	2,664	1,894	895	2,789	56	69		
Summer Session (Net).....	7,909	4,176	12,085	8,285	4,520	12,805	376	344		
Totals.....	43,806	18,085	61,891	43,611	18,764	62,375		679	195	
Less Duplicates.....	5,995	1,923	7,918	5,787	2,115	7,902		192	208	
Net Totals.....	37,811	16,162	53,973	37,824	16,649	54,473	13	487		
Extension										
General Extension.....	8,442	5,891	14,333	8,449	5,402	13,851	7			489
Short Courses.....	1,203	540	1,743	1,884	895	4,109	681	1,685		
Correspondence.....	4,592	3,450	8,042	4,565	3,675	8,240		225	27	
Totals.....	14,237	9,881	24,118	14,898	11,302	26,200	661	1,421		
Less Duplicates.....	401	222	623	388	214	602			13	8
Net Totals.....	13,836	9,659	23,495	14,510	11,088	25,598	674	1,429		
Center for Continuation Study.....	7,040	2,737	9,777	7,560	2,990	10,550	520	253		
Summary:										
Totals,										
Resident Students.....	37,811	16,162	53,973	37,824	16,649	54,473	13	487		
Extension Students.....	13,836	9,659	23,495	14,510	11,088	25,598	674	1,429		
C.C.S.....	7,040	2,737	9,777	7,560	2,990	10,550	520	253		
Grand Totals.....	58,687	28,558	87,245	59,894	30,727	90,621	1,207	2,169		
Less Duplicates.....	2,062	963	3,025	2,065	960	3,025	3			3
Net Grand Totals.....	56,625	27,595	84,220	57,829	29,767	87,596	1,204	2,172		

TABLE VII A DEGREES CONFERRED 1958-60

Colleges and Degrees	Year 1958-59			Year 1959-60		
	Men	Women	Total	Men	Women	Total
Agriculture and Business Administration						
Bachelor of Agricultural Business Admin- istration with high distinction.....	1		1			
Bachelor of Agricultural Business Admin- istration.....	12		12	3		3
Agriculture and Education						
B.S. with high distinction (Ag Ed).....	2		2	2		2
B.S. with distinction (Ag Ed).....	8		8	6		6
B.S. (Ag Ed).....	40		40	49		49
B.S. with high distinction (Home Ec Ed).....		4	4		2	2

TABLE VII A—Continued

Colleges and Degrees	Year 1958-59			Year 1959-60		
	Men	Women	Total	Men	Women	Total
B.S. with distinction (Home Ec Ed)		17	17		5	5
B.S. (Home Ec Ed)		39	39		44	44
Agriculture, Forestry and Home Economics						
B.S. with high distinction (Agriculture)	3		3	4		4
B.S. with distinction (Agriculture)	5		5	11		11
B.S. (Agriculture)	80	2	82	84		84
B.S. with distinction (Fish and Wildlife)	1		1			
B.S. (Fish and Wildlife)	8		8			
B.S. with high distinction (Forestry)				2		2
B.S. with distinction (Forestry)	5		5	6		6
B.S. (Forestry)	51		51	48		48
B.S. with high distinction (Home Economics)		2	2		1	1
B.S. with distinction (Home Economics)		5	5		6	6
B.S. (Home Economics)		35	35	1	31	32
B.S. with high distinction (Science Spec)	1		1			
Business Administration, School of						
B.B.A. with high distinction	3		3	3		3
B.B.A. with distinction	29	1	30	15		15
B.B.A.	296	6	302	201	6	207
B.S. in Business with high distinction		6		2		2
B.S. in Business with distinction					1	1
B.S. in Business	18		18	61	4	65
B.S. in Economics with high distinction	1		1			
B.S. in Economics with distinction				2		2
B.S. in Economics	15		15	14		14
Dentistry, School of						
B.S. with high distinction	2		2	1		1
B.S. with distinction	18		18	5		5
B.S.	68		68	49		49
Doctor of Dental Surgery	84		84	89		89
Graduate Dental Hygienist		34	34		30	30
Education, College of						
B.S. with high distinction		22	22	4	22	26
B.S. with distinction	22	112	134	39	95	134
B.S.	203	401	604	225	368	593
Master of Education	18	15	33	10	36	46
General College						
Associate in Arts	288	45	333	307	62	369
Institute of Technology						
Bachelor of Aeronautical Engineering with distinction	2		2			
Bachelor of Aeronautical Engineering	33		33	27		27
Bachelor of Agricultural Engineering with distinction				1		1
Bachelor of Agricultural Engineering	4		4	4		4
Bachelor of Applied Mathematics with distinction	2		2			
Bachelor of Applied Mathematics				4		4
Bachelor of Architecture with distinction	4		4	3	2	5
Bachelor of Architecture	31		31	19		19
Bachelor of Chemical Engineering with distinction	2		2	2		2
Bachelor of Chemical Engineering	37		37	34		34
Bachelor of Chemistry with high distinction	2		2			
Bachelor of Chemistry with distinction	2		2	3	1	4
Bachelor of Chemistry	12		12	5	2	7
Bachelor of Civil Engineering with high distinction				1		1
Bachelor of Civil Engineering with distinction	4		4	3		3
Bachelor of Civil Engineering	43	1	44	65		65
Bachelor of Electrical Engineering with high distinction	1		1	2		2
Bachelor of Electrical Engineering with distinction	12		12	15		15
Bachelor of Electrical Engineering	89		89	129		129

TABLE VII A—Continued

Colleges and Degrees	Year 1958-59			Year 1959-60		
	Men	Women	Total	Men	Women	Total
Bachelor of Geological Engineering	2	.....	2	6	.....	6
Bachelor of Geophysics with distinction	1	.....	1	.....	.....	.....
Bachelor of Geophysics	1	.....	1	.....	.....	.....
Bachelor of Mechanical Engineering with high distinction	4	.....	4	3	.....	3
Bachelor of Mechanical Engineering with distinction	14	.....	14	12	.....	12
Bachelor of Mechanical Engineering	125	.....	125	147	.....	147
Bachelor of Metallurgical Engineering	2	.....	2	3	.....	3
Bachelor of Metallurgy	1	.....	1	1	.....	1
Bachelor of Mining Engineering with distinction	2	.....	2	.....	.....	.....
Bachelor of Mining Engineering	3	.....	3	7	.....	7
Bachelor of Petroleum Engineering .....	.....	.....	.....	1	.....	1
Bachelor of Physics with high distinction	3	.....	3	2	.....	2
Bachelor of Physics with distinction	6	.....	6	7	.....	7
Bachelor of Physics	13	.....	13	6	.....	6
B.S. with high distinction	18	.....	18	15	.....	15
B.S. with distinction	35	.....	35	41	.....	41
B.S.	21	.....	21	13	.....	13
Electrical Engineer	1	.....	1	2	.....	2
Geological Engineer	1	.....	1	.....	.....	.....
Mechanical Engineer .....	.....	.....	.....	1	.....	1
Law School						
Bachelor of Laws <i>magna cum laude</i>	1	.....	1	6	.....	6
Bachelor of Laws <i>cum laude</i>	15	.....	15	21	.....	21
Bachelor of Laws	71	2	73	53	1	54
Bachelor of Science in Law	35	.....	35	13	.....	13
Master of Laws	1	.....	1	.....	.....	.....
Medical Sciences, College of						
B.S. with high distinction (Medical Tech) .....	.....	4	4	.....	2	2
B.S. with distinction (Medical Tech) .....	.....	5	5	.....	9	9
B.S. (Medical Tech)	3	16	19	.....	18	18
B.S. (Medicine)	64	3	67	97	1	98
B.S. in Nursing with high distinction	1	10	11	.....	5	5
B.S. in Nursing with distinction .....	.....	22	22	.....	19	19
B.S. in Nursing .....	.....	30	30	.....	45	45
B.S. in Nursing Administration with high distinction .....	.....	2	2	.....	7	7
B.S. in Nursing Administration with distinction .....	.....	10	10	.....	14	14
B.S. in Nursing Administration .....	.....	3	3	1	16	17
B.S. with high distinction (Occup Therapy) .....	.....	1	1	.....	1	1
B.S. with distinction (Occup Therapy) .....	.....	10	10	.....	1	1
B.S. (Occup Therapy)	1	13	14	.....	10	10
B.S. with high distinction (Physical Therapy) .....	.....	.....	.....	.....	2	2
B.S. with distinction (Physical Therapy)	3	1	4	.....	2	2
B.S. (Physical Therapy) .....	.....	8	8	2	6	8
B.S. with high distinction (Pub Health Nurs) .....	.....	3	3	.....	.....	.....
B.S. with distinction (Pub Health Nurs) .....	.....	12	12	.....	5	5
B.S. (Pub Health Nurs)	1	25	26	.....	27	27
Doctor of Medicine	108	6	114	119	4	123
Graduate in Nursing .....	.....	1	1	.....	.....	.....
Master of Hospital Administration	21	.....	21	29	.....	29
Master of Nursing Administration .....	.....	19	19	.....	13	13
Master of Public Health	14	27	41	31	14	45
Mortuary Science						
Associate in Mortuary Science	38	.....	38	28	1	29
Pharmacy, College of						
B.S. in Pharmacy	21	3	24	20	.....	20
Science, Literature, and the Arts						
Associate in Liberal Arts	36	40	76	19	33	52
B.A. <i>summa cum laude</i>	5	3	8	7	1	8
B.A. <i>magna cum laude</i>	31	24	55	40	30	70
B.A. <i>cum laude</i>	46	41	87	52	54	106
B.A.	525	144	669	557	176	733
B.S. .....	.....	3	3	.....	.....	.....

TABLE VII A—Continued

Colleges and Degrees	Year 1958-59			Year 1959-60		
	Men	Women	Total	Men	Women	Total
University College						
B.A. <i>summa cum laude</i>				1		1
B.A. <i>magna cum laude</i>		1	1			
B.A. <i>cum laude</i>		1	1		1	1
B.A.	9	9	18	3	7	10
B.S. <i>magna cum laude</i>	1		1		1	1
B.S.	2	2	4	7	1	8
Veterinary Medicine, College of						
B.S. with high distinction	3		3	1		1
B.S. with distinction	8		8	7		7
B.S.	29		29	24		24
Doctor of Veterinary Medicine	45		45	42	2	44
Graduate School						
Master of Arts	309	136	445	346	128	474
Master of Arts in Public Administration	11		11	15		15
Master of Business Administration	10		10	8	1	9
Master of Fine Arts	2		2	2	3	5
Master of Forestry	4		4	6		6
Master of Science	123	11	134	133	19	152
M.S. in Aeronautical Engineering	8		8	4		4
M.S. in Agricultural Engineering	4		4	6		6
M.S. in Anesthesiology	3		3	3		3
M.S. in Chemical Engineering	14		14	8	1	9
M.S. in Civil Engineering	27		27	27		27
M.S. in Dentistry	16		16	8		8
M.S. in Dermatology	2		2	1		1
M.S. in Dermatology and Syphilology	3		3			
M.S. in Electrical Engineering	6		6	12	1	13
M.S. in Industrial Engineering	3		3	1		1
M.S. in Mechanical Engineering	16		16	16		16
M.S. in Medicine	20	1	21	12		12
M.S. in Metallurgical Engineering	4		4	1		1
M.S. in Mineral Engineering	2		2			
M.S. in Mining Engineering				1		1
M.S. in Neurology	2		2	1		1
M.S. in Neurosurgery	5		5	1		1
M.S. in Obstetrics and Gynecology	1		1	1		1
M.S. in Ophthalmology	1		1			
M.S. in Orthopedic Surgery	2		2	6		6
M.S. in Otolaryngology and Rhinology	1		1			
M.S. in Pathology	5		5			
M.S. in Pediatrics					1	1
M.S. in Physical Medicine and Rehabilitation	2		2			
M.S. in Plastic Surgery				2		2
M.S. in Proctology	1		1			
M.S. in Psychiatry				2		2
M.S. in Radiology	3		3	3		3
M.S. in Surgery	12		12	11		11
M.S. in Urology				2		2
Master of Social Work	14	16	30	18	20	38
Doctor of Philosophy	214	21	235	221	20	241
Ph.D. in Medicine	2		2			
Ph.D. in Neurosurgery	1		1			
Ph.D. in Surgery	2		2	3		3
Ph.D. in Urology				1		1
Duluth						
Associate in Arts	16	20	36	9	10	19
B.A. <i>summa cum laude</i>				2		2
B.A. <i>magna cum laude</i>				4		4
B.A. <i>cum laude</i>	13	4	17	16	2	18
B.A.	187	24	211	173	12	185
B.S. <i>summa cum laude</i>				1		1
B.S. <i>magna cum laude</i>				1	2	3
B.S. <i>cum laude</i>	11	31	42	8	21	29
B.S.	72	100	172	109	85	194
Grand Totals	4,107	1,609	5,716	4,211	1,574	5,785

TABLE VII A—Continued

Colleges and Degrees	Year 1958-59			Year 1959-60		
	Men	Women	Total	Men	Women	Total
Honorary Degrees						
Doctor of Laws	1		1			
Doctor of Science	1		1			
Grand Totals	4,109	1,609	5,718	4,211	1,574	5,785

TABLE VII B CERTIFICATES CONFERRED 1958-60

School, Division, or Course	1958-59			1959-60		
	Men	Women	Total	Men	Women	Total
General College						
Certificates in Dental Assistants		30	30		19	19
Nursing						
Certificate in Practical Nursing		25	25	2	35	37
Public Health						
Certificate in Public Health Nursing		11	11			
Graduate						
Certificate of Specialist in Education (School Administration)	2		2	4		4
Certificate of Specialist in Education (School Psychological Services)	3		3	2	2	4
Extension						
Applied Mortuary Science Certificate	1		1	1		1
Business Certificate						
Junior	10	2	12	5	2	7
Senior	15	1	16	10	1	11
Junior Management of Administrative Services				3		3
Engineering Certificate						
Basic Engineering Aide				10		10
Basic Engineering Science				6		6
Engineering Science (Senior)				2		2
General Engineering						
Junior	12		12	9		9
Senior	16		16	7		7
Electrical Engineering Aide (Senior)	1		1			
Electrical Engineering Technician (Senior)				1		1
Industrial Engineering Certificate						
Junior	1		1	4		4
Senior	3		3	3		3
Industrial Relations Certificate	2		2	6		6
Liberal Arts Certificate	2	3	5	4	5	9
Public Administration Certificate	3	1	4	1		1
Institute of Technology						
Certificate in Science				3		3
Medical Laboratory Assistant Certificate		38	38		43	43
School of Agriculture, St. Paul						
Diplomas	34	10	44	31	12	43
Certificate in Practical Nursing and Home Management		8	8		12	12
Food Technicians Certificate		3	3		5	5
Special Certificate for Swedish, Danish, and German Exchange Students—6 months	17		17	19		19
3 months	10		10	1		1
Special Certificate for Dairy Herd Management	7		7	7		7
North Central School of Agriculture, Grand Rapids						
Agriculture Course				1		1
Auto Mechanics Certificates				3		3

TABLE VII B—Continued

School, Division, or Course	1958-59			1959-60		
	Men	Women	Total	Men	Women	Total
Special Certificate	1	.....	1	.....	.....	.....
Woodsmen Certificate	12	.....	12	12	.....	12
Diplomas	15	.....	15	32	.....	32
Northwest School of Agriculture, Crookston						
Diplomas	75	10	85	73	22	95
Southern School of Agriculture, Waseca						
Diplomas	37	4	41	38	13	51
West Central School of Agriculture, Morris						
Diplomas	45	18	63	56	19	75
University High School, Minneapolis						
Diplomas	35	35	70	36	37	73
Totals	359	199	558	392	227	619

TABLE VIII A STUDENTS ENTERED FROM HIGH SCHOOLS 1958-59

	General	S. L., and A.	Inst. of Tech.	Ag., For., and H.E.	Nursing	Dental Hygiene	Education	Duluth	Total
Minneapolis Public Schools	391	651	154	58	8	1	135	3	1,401
St. Paul Public Schools	159	279	71	39	3	4	37	.....	592
Other Minnesota High Schools	428	1,001	352	319	12	9	126	620	2,867
Minnesota Private Schools	145	218	48	32	5	3	26	33	510
Total, Minnesota Schools	1,123	2,149	625	448	28	17	324	656	5,370
Other States and Territories	70	124	39	15	3	5	20	43	319
Foreign Countries	4	9	4	1	.....	.....	.....	9	27
Total	1,197	2,282	668	464	31	22	344	708	5,716
Special Students	29	15	2	.....	2	.....	1	2	51
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand Totals	1,226	2,297	670	464	33	22	345	710	5,767

TABLE VIII B STUDENTS ENTERED FROM HIGH SCHOOLS 1959-60

	General	S., L., and A.	Inst. of Tech.	Ag., For., and H.E.	Nursing	Dental Hygiene	Education	Duluth	Total
Minneapolis Public Schools	358	606	165	40	6	1	97	4	1,277
St. Paul Public Schools	178	270	78	50	1	2	46	2	627
Other Minnesota High Schools	407	1,118	345	306	7	9	156	800	3,148
Minnesota Private Schools	147	230	68	32	4	3	26	47	557
Total, Minnesota Schools	1,090	2,224	656	428	18	15	325	853	5,609
Other States and Territories	59	115	32	18	1	10	19	31	285
Foreign Countries	6	11	8	3	.....	.....	2	5	35
Total	1,155	2,350	696	449	19	25	346	889	5,929
Special Students	13	7	.....	1	1	.....	.....	1	23
Missing Information .....	.....	.....	.....	.....	.....	.....	.....	6	6
Grand Totals	1,168	2,357	696	450	20	25	346	896	5,958

TABLE IX A

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1958-59

	General	University	Sci., Lit., and Arts	Institute of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Duluth	Total
Institutions in Minnesota	71	1	342	197	76	14	24	5	23	2	1	38	22	3	9	189	34		129	1,180
Institutions in Other States	28	1	273	76	48	15	12	2	52	1	2	16	16	5	6	140	28	15	76	812
Institutions in Foreign Countries			10	7	4				3			1			1	3	1		7	37
Totals	99	2	625	280	128	29	36	7	78	3	3	55	38	8	16	332	63	15	212	2,029
Special Students	3		155	37	38		1	1	31			14				175	15		2	472
Grand Totals	102	2	780	317	166	29	37	8	109	3	3	69	38	8	16	507	78	15	214	2,501

TABLE IX B

SUMMARY OF STUDENTS ENTERED WITH ADVANCED STANDING

1959-60

	General	University	Sci., Lit., and Arts	Institute of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Vet. Medicine	Duluth	Total
Institutions in Minnesota	79	2	325	169	87	9	45	5	26		3	33	23	4	8	141	44		131	1,134
Institutions in Other States	19	2	249	71	46	14	11	1	37	1	2	12	20	2		110	25	8	50	680
Institutions in Foreign Countries		1	16	7	2	1			4							6	1		3	42
Totals	98	5	590	247	135	24	56	6	67	1	5	45	3	6	8	257	70	9	184	1,856
Special Students	2		144	40	44			9	36			9				152	9			445
Grand Totals	100	5	734	287	179	24	56	15	103	1	5	54	43	6	8	409	79	9	184	2,301

TABLE X A

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION)

1958-59

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Graduate	Vet. Medicine	Duluth	Duplicates	Total	
Counties in Minnesota																							
Hennepin	1,713	24	4,161	1,404	427	117	166	23	56	15	5	105	71	29	35	1,666	356	1,077	15	26	504	11,491	
Ramsey	594	19	1,538	638	216	42	71	7	15	8	4	45	39	10	13	558	131	523	10	13	169	4,494	
Other Minnesota Counties	463	23	2,330	1,607	1,290	99	224	38	46	10	13	174	179	25	80	1,059	421	1,054	94	2,542	524	11,771	
Totals	2,770	66	8,029	3,649	1,933	258	461	68	117	33	22	324	289	64	128	3,283	908	2,654	119	2,581	1,197	27,756	
Other States and Territories	42	9	483	248	120	25	42	7	103	4	6	99	82	15	4	244	67	1,667	58	93	47	3,418	
Foreign Countries	5		42	32	25	1	2	1	28	1	1	9	1			17	6	811	1	32	5	1,015	
Grand Totals	2,817	75	8,554	3,929	2,078	284	505	76	248	38	29	432	372	79	132	3,544	981	5,132	178	2,706	1,249	32,189	

TABLE X B

SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION)

1959-60

	General	University	S.L.A.	Inst. of Tech.	Ag., For., and H.E.	Law	Medicine	Medical Tech.	Public Health	Occup. Therapy	Physical Therapy	Nursing and Affiliates	Dentistry	Dental Hygiene	Pharmacy	Education	Business	Graduate and Mayo	Vet. Medicine	Duluth	Duplicates	Total	
Counties in Minnesota																							
Hennepin	1,740	30	4,240	1,397	400	114	156	32	56	12	3	85	78	24	36	1,549	355	1,105	16	49	405	11,477	
Ramsey	623	13	1,537	604	250	42	70	9	23	7	7	42	39	14	18	537	119	519	9	14	151	4,496	
Other Minnesota Counties	404	28	2,318	1,527	1,217	91	238	38	52	13	16	153	173	26	83	1,042	356	1,039	90	2,678	521	11,582	
Totals	2,767	71	8,095	3,528	1,867	247	464	79	131	32	26	280	290	64	137	3,128	830	2,663	115	2,741	1,077	27,555	
Other States and Territories	48	6	407	232	101	22	43	6	103	4	10	86	80	13	5	205	44	1,782	57	84	33	3,343	
Foreign Countries	7	1	50	38	33	1	3	1	33	2		7	1		1	27	3	879	2	23	6	1,112	
Grand Totals	2,822	78	8,552	3,798	2,001	270	510	86	267	38	36	373	371	82	143	3,360	877	5,324	174	2,848	1,116	32,010	

BUREAU OF INSTITUTIONAL RESEARCH

Senate Committee on Institutional Research—During the 1958-60 biennium, leadership responsibilities for the Senate Committee on Institutional Research were assumed by Professor John R. Borchert. Other members of the committee were Thomas W. Chamberlin, E. Paul Torrance, Robert J. Keller, Wilbur L. Layton, John G. Darley, Keith N. McFarland, Paul R. O'Connor, Sheldon C. Reed, Robert E. Summers, Maurice B. Visscher, and Malcolm M. Willey.

Bureau Offices and Personnel—In January 1959, the Office of Educational Research, jointly housing the Bureau of Institutional Research and the Bureau of Educational Research, moved to new quarters on the third floor of Burton Hall. For the first time in over 30 years, the two bureaus are housed in offices specifically designed for their special functions. The well-ventilated and well-lighted rooms, the convenient arrangement of private and semi-private offices, the centrally located library and reference area, the conference room, and the greatly improved facilities for secretarial and clerical services, all contribute toward more effective and efficient research and service and high staff morale.

During the past biennium, the Bureau has achieved a remarkable degree of personnel stability, incurring no losses of the full-time professional faculty.

General Educational Research Unit—In the spring of 1960, the Bureau announced publication of the second monograph of the Report Series. The second report, entitled "Faculty Attraction and Retention: Factors Affecting Faculty Mobility at the University of Minnesota," summarized and integrated the findings of four studies conducted by the Bureau in co-operation with a subcommittee of the University Senate Committee on Education. Over 400 past, present, and prospective staff members were questioned by interview or questionnaire about their attitudes, impressions, and reactions toward the University of Minnesota as a place to work. The study represents a pioneering investigation of the factors that influence faculty members to accept a new job offer or to remain in their positions.

A second major project completed by the Bureau during the biennium was an evaluation of the architectural education received by Minnesota's registered architects. This survey was carried on in co-operation with the University of Minnesota School of Architecture and the Minnesota Society of Architects. The study obtained by questionnaire the attitudes and opinions of nearly two-thirds of Minnesota's registered architects concerning: (1) the adequacy of their formal preparation for entering architectural practice; (2) the importance of various architectural objectives in light of their own achievement in the field; and (3) certain professional and ethical problems related to architectural education.

In addition to major projects, Bureau assistance in the form of staff consultation about research design, evaluation forms, or data analysis consumed much staff time. Typical of the latter activities are the following studies: (1) Since 1929, at 10-year intervals, the School of Dentistry, University of Minnesota, has conducted a careful examination of the dental status of each entering freshman. In 1959, the fourth such collection of data was repeated, and the Bureau aided the School of Dentistry in organizing the data and carrying out the statistical analyses required; (2) During the summer of 1959, the Minnesota Museum of Natural History offered a special course in the presentation of science materials to a group of elementary school teachers. The Bureau assisted in the evaluation of this special course by designing and analyzing two follow-up studies to determine which of the ideas and topics presented in this special course had found their way into teaching practice, and whether such a special course on science teaching would be a valuable addition to the training program of elementary school teachers; (3) The Bureau offered advice on the planning and statistical analysis of an experiment in the School of Business Administration which was designed to determine the effect of large, medium, and small class sizes upon the achievement of students in a basic accounting course.

A number of projects were in various stages of planning or completion as the biennium ended: an intensive interview study of the college teaching and other career plans of 50 honor students from the University of Minnesota

and two Twin Cities private colleges; a 2- and 4-year validation study of the college midpoint form of the Aliferis-Stecklein Music Achievement Test; completion of the first draft of the graduate form of the Aliferis-Stecklein Music Achievement Test, preparatory to a pilot administration; a co-operative study with a Senate Committee on Education subcommittee studying various plans for subsidizing faculty members' travel costs to professional meetings; a study of the effect of using dental assistants in the training of senior dental students in an adult clinic; a survey of faculty attitudes toward the use of closed-circuit television for University instruction; and a follow-up of University students who had been enrolled spring quarter 1959, but did not re-enroll fall quarter 1959.

Examination Services—For the past 10 years, the Bureau has maintained an examinations consulting service for University faculty members. During this time, Bureau examinations consultants have attempted to encourage the improvement of classroom testing devices both by talks to University and non-university groups, individual consultation, and by means of a series of bulletins designed to help the classroom teacher on the planning, writing, and analysis of his tests. The extent of interest in this series of bulletins, both within and outside the University, is indicated by the fact that the 50,000th bulletin was recently distributed. During the past year, the Bureau has also assisted the faculty members of the College of Education in the revision and analysis of a part of their graduate admission test battery.

Administrative Research Unit—The Administrative Research Unit has devoted much of its time during the biennium to special studies requested or suggested by the president or other central administrative officers. Some of these studies continue from year to year; others are made only upon special request. Examples of continuing responsibilities are: the summary reports made each quarter by college of the courses offered, sections, credits, class sizes, teaching loads, etc.; the collection of information for questionnaires sent to the University; and analyses of faculty time spent on contract research. Special studies undertaken the past year include the studies of student drop-outs and attitudes toward closed-circuit television in education mentioned earlier.

The staff has also contributed much time to state-wide services during the biennium. The Fifth and Sixth Annual Surveys of Minnesota College and University Enrollments were made as a service to the Association of Minnesota Colleges. These surveys have come to be the basic source of enrollment data used throughout the state. Staff members have served as members of the Research Team, Liaison Committee on Higher Education the past year, suggesting, conducting, and analyzing studies for that group. Progress has been made on a state-wide cost study. Virtually all of the member institutions of the Association of Minnesota Colleges have agreed to participate if funds are obtained to support the project. If funds are obtained the Administrative Research staff will be heavily involved in the study.

Several kinds of exploratory, self-initiated studies included the following: an analysis of trends in departmental expenditures over the past 10 years, a 5-year comparison of class size in certain subject fields, a detailed study of numbers and kinds of undergraduate and graduate degrees conferred by the University of Minnesota during an 8- and a 20-year period with comparative data for other Big Ten institutions, and analyses of rank and subject field differences in time spent on instruction using unit measures for various ranks and levels and types of instruction. The latter studies were based on data collected in the California-Western Conference Cost and Statistical Study.

Other Staff Activities—Staff members have carried major responsibility for educational psychology courses in the area of measurement and evaluation and have taught some courses in statistics. They have served as guest speakers and lecturers at a number of meetings and institutes both within and outside the state.

The recognition which the University of Minnesota receives as a long-time leader in the institutional research movement is reflected in the increasing number of queries about the Bureau, its structure, organization and pur-

pose, requests for assistance in setting up new institutional research units, and invitations to participate in institutes and programs devoted to problems of institutional management. As the prevailing institutional research interest picks up momentum, similar demands upon the Bureau staff will increase.—
JOHN E. STECKLEIN, *director*

DEPARTMENT OF MINNESOTA STUDENT UNIONS

The Department of Student Unions during the 1958-60 biennium enjoyed a major alleviation of pressure on the St. Paul Campus, but experienced even greater strains on the Minneapolis Campus as Coffman Memorial Union reached its 20th year of service.

The most important building development for the Department during the 2-year period was the completion and opening of the St. Paul Campus Student Center in April 1959. It replaced the St. Paul Campus Union which had been operating in Old Dairy Hall for 28 years.

Erected at a cost of approximately \$1,150,000, the building consists of two floors and a full-size lower level. It is connected by an enclosed passageway with the new Dining Center and with Bailey Hall, the new dormitory on the St. Paul Campus.

The structure was designed to be functional and flexible. Flexibility was achieved through the use of multiple-purpose rooms and areas, "mood" lighting in color with controlled intensity, and movable equipment.

Funds for construction of the Student Center came from business firms, industries, alumni, faculty and staff members and other friends of the University and from a loan authorized by the Board of Regents. Eventually the building will be paid for completely without public funds.

Coffman Memorial Union on the Minneapolis Campus reached its 20th anniversary year with greater physical demands than ever being made upon its facilities. The building, designed to accommodate a 14,000 enrollment on the Minneapolis campus, was completed and opened in 1940. It has been virtually "bulging at the seams" in recent years because of the high enrollment. The pressure becomes greater each year between September and June.

A 2-year study of student union facility needs on the Minneapolis Campus ended in the fall of 1959 with the issues of a report and recommendations by an expansion and development committee appointed in 1957. This study, sponsored by the Board of Governors of Coffman Memorial Union, determined the needs and wants of students and faculty members with respect to Union facilities and evaluated methods of expanding present facilities to meet the expected heavy enrollment of the future. Recommendations of the committee will be used by the University Building Committee in planning for future union facilities and services including a new student union on the West River Bank.

Ever striving to offer the greatest service to the greatest number of students, faculty members, staff members and friends of the University, the Department must keep in mind the limitations it faces in both physical facilities and staff. It must endeavor to fulfill its physical and personnel needs in order to meet the service demands made upon it.

Services of the Department of Student Unions at its three branches, Coffman Memorial Union, St. Paul Campus Student Center, and the Village Union, were enjoyed by more persons during the 1958-60 biennium than at any previous time. Program attendance at the three Unions was markedly higher during the second year of the biennium than during the first year.

Greater diversification and higher quality in programming were marked features of the biennium. Department personnel were organized so as to achieve the best results in every phase of the operation. Moreover, union activities were planned with a view to giving more persons an opportunity to participate in them.

Coffman Memorial Union—Coffman Memorial Union continued to experience difficulty in meeting space needs of organizations on the campus during the 1958-60 biennium. Too frequently requests for meeting space had to be denied because of the lack of available rooms.

The stress of a growing student body was particularly felt in the Main Ballroom, where homecoming dances and other major events are held, and in the North Star and Ski-U-Mah rooms which serve the double purpose of commuters' lunch rooms and study rooms.

As in other years, Coffman Memorial Union was used by more persons on the campus than any other university building.

Among the principal areas of needed expansion at Coffman Memorial Union are commuters' eating and study facilities, ballroom facilities, lounges, student office space, meeting rooms, recreational facilities and mechanical rooms.

Several major improvements were made on the main floor of the Union during this biennium. These included complete repaneling of the walls in the main corridor; the completion of a Fine Arts Gallery with both glass display cases, display panels, and special lighting facilities; remodeling of the Union Director's office, and the installation of a new counter-type information desk opposite the main entrance of the building. This new information center has proven helpful to the entire university as well as the Union. Visitors inquire as to directions on campus, students leave information for others, and faculty and students find the quick answer to what's going on in the Union.

A major repair project on the roof of the building was undertaken in the summer of 1960.

Renovation work, including the placement of a protective covering on columns, was done in the Main Ballroom.

One objective of the Union Board of Governors in 1958-60 was to have more programs of quality even at the risk of lower attendance in certain cases. Surprisingly, the quality stress produced more programs of higher quality and larger attendance as well.

The outings area took on a new look with the emphasis on instruction, program, equipment rental, and a revitalized approach to recreation. The Ski Train to Lookout Mountain, Virginia, Minnesota, was complete with dance cars, deep snow, chair lift, and a great crowd for the top outing of both 1959 and 1960. The Big Ten Bowling Trophy became a permanent possession after repeated victories.

"State of the Union," a full page in the Minnesota Daily each Friday, brought many comments and much publicity to activities of the Union Board of Governors.

New attendance records were set for the Homecoming Dance, with 4,500 present in 1959, and the Creative Arts Festival, which has become the top Union event of the year.

Two projects undertaken and completed by Coffman Memorial Union during the 2-year period brought the Union international recognition on college and university campuses. One was the mass production of basic and advanced leadership seminar kits for use in the training of committee members and chairmen, which were in demand by public and private organizations throughout the United States and Canada. The kits were completed by the program staff of the Union after several years of experimentation and testing. Proceeds from their sale go to the leadership training research program of the Association of College Unions.

The second project which attracted the interest of educators was the production of a 25-minute color and sound motion picture by Coffman Union and the Audio-Visual Education Service of the University. The movie, "The 'You' In The Union," portrays the function of the college union, explaining its part in the over-all college program. The film was made available to colleges and universities in the United States and Canada.

A Union Board Council, designed to provide a nucleus of highly trained and experienced leaders for all student activity groups, was instituted at Coffman Union in 1959-60. The council is composed of 35 selected freshmen.

A personnel consultant to work with the Personnel and Public Relations Committees was added during the biennium. This proved an effective addition in achieving better committee performance.

A limited number of special events were held and each brought out good attendance.

Special progress was made during 1958-60 in the dance, fine arts, noon programs, outings, personnel, public relations, training, and special events areas of Coffman Memorial Union.

Over-all attendance at union-sponsored events was 173,443 in 1958-59 and 197,534 in 1959-60—an increase of 24,051.

Summer program features included Monday night square dances, Friday night patio dances, dance instruction, and Wednesday night patio party entertainment, watermelon feeds, lemonade hours, and outdoor games.

St. Paul Campus Student Center—The St. Paul Campus Student Center celebrated its first full year of operation on April 8, 1960. During the first 12 months, programming at the Center was branching out in all directions with all-time attendance figures being recorded.

It might fairly be said that the new building facilities were in more than constant use by all of the St. Paul Campus community. A remarkable example of this constant use is the many faculty-sponsored events held during those periods when students were not apt to be programming (vacations, finals, etc.). These programs represent 25 per cent of the total building scheduled use and indicate that the new Center has been adequately integrated into the campus scene.

New programs were introduced and old standbys were strengthened during the first year.

The new art gallery on the main floor was used constantly to display graphic art ranging from unusual photography to "Grandpa Moses" art. The Rouser Rumpus Friday Night club program held steady throughout the year and wound up with a nightly attendance of over 200.

Good attendance figures were recorded in the outings area, activities of the Toastmasters, the annual talent show, the spring open house, foreign student activities, and graduate student activities.

Solid plans had been laid by the end of the biennium to present weekly convocations on the St. Paul Campus.

Particularly noteworthy is the fact that the Student Center caused an increase in the number of organization meetings on the St. Paul Campus. More than twice as many meetings and programs were held during the first year of its operation as during the previous 12 months.

The food service which the former St. Paul Campus Union had operated on its own in Old Dairy Hall was replaced in the new buildings by operations of the University Food Service.

In one short year, the Student Center, a long-sought dream of the St. Paul Campus, became an integral part of the student and faculty life.

The Student Center operated on a limited schedule in the summer months. Events included picnics and other outings, committee meetings, and organization meetings.

Village Union—The Village Union continued to meet the needs of married students and their families living in University Village and other married housing areas.

The biennium has brought considerable improvement in programming with more diversification, better quality and greater attendance being noted. There has been steady patronage of the building and its services in the 1958-60 period.

The Village Union was featured in a motion picture which was made in the spring of 1960 to be shown internationally to professional health and medical groups. The film portrays the development of the Cox polio vaccine which was first administered experimentally in a community setting at the Village Union in 1958.

The Play Center and other children's activities were an outstanding feature of this Union during the biennium. Attendance remained high at the Play Center both before and after the Village Board assumed full responsibility for the operation.

Over-all Department of Student Unions—Quarterly reports were submitted to the Senate Committee on Student Affairs which included current general information, compliance with Senate rules and personnel information. From

these reports it should be noted that over 650 student volunteers annually take part in the planning and execution of programs. The trend during this period has been with cultural programs such as the Fine Arts Festival.

The personnel training program resulted in more dynamic student leadership on campus than in previous years. Student faculty and alumni board members worked very harmoniously not only to provide programs and use of facilities but served as hosts to such functions as the Regional Meeting of the Association of College Unions as well as the quarterly President's Reception for graduating seniors and guests.

With the completion of the St. Paul Campus Student Center, attention was centered on the renovation needs of Coffman Memorial Union as well as plans for future facilities to provide for the programs and services of the rising enrollment.

Over-all program attendance at Coffman Memorial Union, the St. Paul Campus Student Center and the Village Union was 770,126. This attendance was about equally divided between Union-sponsored events and those having other sponsorship. Total program attendance in 1959-60 was 403,731, which was 37,336 or about + 10 per cent higher than the total for 1958-59.

During the biennium the Department served more than 8,100 organizations by providing facilities for specific meetings, conferences and dinners as well as providing services for informal use for over 12,000 daily during a normal day.—GORDON L. STARR, *director*

TABLE I. CLASSIFIED ATTENDANCE FIGURES ON UNION-SPONSORED EVENTS AT COFFMAN MEMORIAL UNION DURING THE 1958-59 AND 1959-60 ACADEMIC YEARS

Area	1958-59	1959-60	Percentage of Increase or Decrease
Dance	18,589	18,172	- 2
Fine Arts	28,599	18,310	- 36
Games	4,159	3,537	- 15
Music	40,939	40,731	
Noon Programs	30,988	69,665	+125
Outings	2,248	8,856	+294
Social Skills	15,625	9,050	- 42
Talent Development	12,772	4,498	- 65
Special Events	18,306	19,026	+ 4
Personnel	584	657	+ 13
Public Relations	2,578	4,351	+ 68
Training Area	179	518	+189
Totals for Union-sponsored Events	173,443	197,534	+ 14

TABLE II. CLASSIFIED ORGANIZATIONAL USE OF COFFMAN MEMORIAL UNION, WITH ATTENDANCE FIGURES, FOR BOTH YEARS OF THE 1958-60 BIENNium

Type of Use	1958-59	1959-60
Union-sponsored Events	173,443	197,534
Alumni Organizations	1,572	1,386
Class Meetings	851	646
Co-operative Organizations	47	29
Faculty Organizations	3,685	4,316
Fraternalities and Sororities	6,933	7,514
Governing Bodies	6,987	5,217
Honorary Organizations	1,978	1,794
Language and Cultural Organizations	6,326	3,853
Music and Fine Arts Organizations	1,674	1,116
Orientation Activities	26,239	21,635
Political Organizations	2,286	2,850
Professional and Department Organizations	17,468	16,496
Recreation and Hobby Organizations	3,824	4,222
Religious Organizations	16,287	15,915
Residential Organizations	268	583
Social Service Organizations	2,174	1,933
Special Events	21,423	17,416
Miscellaneous	2,689	1,581
Non-university Organizations	11,420	6,140
Total Attendance for Both Union-sponsored and Other Events	307,574	312,176

DIVISIONS OF ACADEMIC ADMINISTRATION

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TABLE III. COMPARISON OF VOLUME OF BUSINESS FOR BOWLING LANES AT COFFMAN MEMORIAL UNION FOR THE ACADEMIC YEARS OF 1958-59 AND 1959-60

	1958-59	1959-60	Change from Previous Year	
			Number	Per Cent
Total Lines Bowled	199,008	185,058	-13,950	- 7
Lineage Breakdown				
Regular	129,908	121,951	- 7,957	- 6
League	47,571	40,759	- 6,812	- 14
Women's Physical Education Classes	7,068	6,887	- 181	- 2
Men's Physical Education Classes	8,666	5,464	- 3,202	- 36
Free Lines	535	365	- 170	- 30
University High School Classes	1,301	1,311	+ 10	+ 7
Tournaments	1,942	2,122	+ 180	+ 9
Special	2,017	6,199	+ 4,182	+207
Total	199,008	185,058	-13,950	- 7
Days in Operation	321	318	- 3	- .9

TABLE IV. CLASSIFIED ATTENDANCE FIGURES ON EVENTS AT THE OLD ST. PAUL CAMPUS UNION DURING THE 1958-59 ACADEMIC YEAR AND THE NEW STUDENT CENTER IN 1959-60. GAMES AND SNACK BAR PATRONAGE IS ALSO INCLUDED FOR THE SAME PERIOD

Area	1958-59	1959-60	Percentage of Increase or Decrease
Hospitality—coffee hours, open houses, etc.	6,610	8,566	+ 30
Fine Arts—exhibits, music, films, theater	4,473	4,001	- 11
Special Events—Christmas parties, workshops, receptions, camps	3,571	4,358	+ 22
Dance Activities—parties, instruction, formals	2,163	2,765	+ 28
International Students—programs	740	206	- 72
Discussion—toastmaster, debates, talks	680	459	- 32
Outings—camping, skiing, canoeing	495	672	+ 36
Graduate and Married Students—activities	258	596	+131
Crafts and Games	131	913	+600
Meetings of Clubs, Committees and Other Programs	18,777	48,898	+160
Total Attendance at All Events	37,898	71,439	+ 88
Total Patronage at Snack Bars	341,153	276,173	- 19
Total Patronage at Games	10,244*	66,629	*
Total Patronage at Information Desk	12,010*	81,114	*
Total Accountable Traffic at St. Paul Campus Student Center	401,305	495,355	+ 23

* Partial year's operation in new Student Center—period April 16, 1959-June 30, 1959.

TABLE V. CLASSIFIED ATTENDANCE FIGURES ON EVENTS AT UNIVERSITY VILLAGE UNION DURING SEPTEMBER THROUGH MAY 1958-59 AND 1959-60

Area	1958-59	1959-60	Percentage of Increase or Decrease
Dance Activities	296	408	+ 39
Games	752	446	- 41
Music		150	+100
Movies	423	73	- 83
Social Activities and Discussion Groups	2,100	3,655	+ 74
Special Events	2,754	1,525	- 45
Arts, Crafts, Knitting	22	58	+164
Board, Council and Standing Committee Meetings	2,126	2,107	- .89
Health Activities (pre-school play center, well-baby clinic, exercise class, first aid)	5,414	6,342	+ 17
Library and Books	7,036	5,352	- 24
Total Attendance	20,923	20,116	- .3

UNIVERSITY HEALTH SERVICE

In general, the health of the students on the campus was good. In the academic year 1958-59 there was a small increase in cases of influenza, although not in any epidemic proportion.

Three deaths occurred among students during the biennium, 1 from a malignancy, 1 due to a coronary heart attack, and 1 from an aplastic anemia.

On recommendation of the Health Service, the Administrative Committee of the University voted to discontinue the requirement of a Health Service statement for absences due to illness. Only when students are hospitalized in the Health Service or are sent home for an extended stay is a notice sent to the student's college. This change in procedure has reduced many unnecessary visits to the Health Service.

Building Expansion—The three-story addition to the Health Service building was completed during the 1959-60 academic year. The additional space has permitted improved services in several departments. An enlarged x-ray department has made it possible for students to have the majority of x-rays in the Health Service rather than in University Hospitals. This decentralization of x-ray services is in line with the policy of the University Hospitals.

Additional space available in the new wing has also made it possible for the expanding environmental health and safety staff to carry on their work more efficiently.

Blue Cross-Blue Shield—The supplemental Blue Cross-Blue Shield plan developed for University students in 1958 has become increasingly popular with students. This plan gives the student medical and hospital coverage while he is away from school on week ends or during the summer vacation. About 6,000 students have elected to subscribe to this supplemental health care plan.

General Program—The general program to provide health examinations and hospital care, informal individual health counseling and the supervision of the environmental health of the campus, has continued. The educational program of the Health Service, under the direction of the health educator, has been broadened and extended. In the fall of 1959 the position of a public health nurse, which had been on a part-time basis, was increased to a full-time position. The public health nurse has taken over responsibility for many of the routine public health aspects of the Health Service program. This includes such functions as keeping an accurate tuberculosis case registry and providing an adequate follow-up for cases of tuberculosis occurring among students and staff, and the responsibility for the supervision of the health examinations of food handlers on the campus. In addition, the public health nurse has served a very useful purpose in counseling students, particularly married students, and assisting them in making use of community facilities to meet their health needs.

Foreign students continue to have more severe health problems than do other students. In spite of careful screening before admission to this country, tuberculosis is found more frequently among foreign students than among others. Likewise, severe emotional problems are seen more frequently among the foreign students. Many of these are due to cultural differences.

Great effort was made during this biennium to urge students to be protected against poliomyelitis by the use of Salk vaccine. The Health Service offered the vaccine to students, and during the biennium over 9,400 doses of vaccine were given.

Health Examinations—Complete medical examinations were given to 26,659 students during the biennium. This includes the required medical examination on admission to the University and periodic health examinations. In the year 1958-59, over 4,900 students had periodic health examinations.

Medical Care—Over 212,000 visits were made to the Health Service dispensary for medical care during the biennium. This is more visits than have ever occurred except during an influenza epidemic. The increase is out of proportion to the increase in the student population, indicating wider use of the Health Service by students.

Hospital Care—Over 3,000 students were hospitalized in the student hospital during the biennium. The average rate per 1,000 students was about normal. The average length of hospital stay continues to be low.

Mental Hygiene—Not only has the mental hygiene clinic been used to capacity, but the character of problems seen has continued to be more severe than in former years. During the biennium, 1,092 new patients have been referred to the mental hygiene clinic for care, and 277 cases were carried over from previous years for continued treatment, making a total of 1,369 students interviewed for a total of 6,721 interview hours. In addition, 1,069 therapy hours for group therapy were provided. As in previous years, about 40 per cent of the students referred to the mental hygiene clinic came from physicians in the Health Service, and 30 per cent were self-referred. The remainder were referred by faculty members, counselors, friends or other sources.

Tuberculosis Control—A tuberculosis case-finding program has been continued as a routine part of the preventive medicine program of the Health Service. Each new student and all students given a periodic health examination are given a tuberculin test. Those reacting positively to the test are given a 14 x 17 chest x-ray. The same procedure is followed for all new faculty and nonacademic employees given pre-employment examinations.

Ten cases of active tuberculosis among students and staff were discovered through routine examinations. Of this number, 3 were foreign students and 2, staff members. There were 165 students and staff members with arrested tuberculosis under observation in the Health Service.

Special Diet Table—The Health Service has continued to provide a special diet table where students with severe dietary problems may obtain their meals. A total of 145 students has been served meals during the biennium. The most common types of diet required have included low calorie, diabetic diets and bland diets. Dietary counseling by a physician and a dietitian was given to 1,295 students who needed help with dietary problems but did not need to eat at the special diet table.

Special Services—Consultation service in all of the medical specialties has continued to be available to students in the Health Service. The additional facilities in the new wing of the Health Service have made it possible to provide more adequately for this consultation service.

Health Education—The full-time health educator has continued to assist all members of the Health Service staff in utilizing the educational opportunities in the day-by-day functioning of the Health Service. He has arranged visual aids for individual physicians' offices, provided educational pamphlets and literature for specific purposes and designed health exhibits. The health educator has again served as a Health Service representative to the Minnesota Students Association and developed close working relationships with the editor and staff of the *Minnesota Daily*. He has served as faculty representative to the Social Service Council and assisted student groups with campus-wide health projects, such as the Diabetes Detection Drive, Heart Education, etc.

A very effective aspect of the health education program is the participation in the orientation program of the Dean of Students office. The purposes of the orientation program in the Health Service are to: (1) prepare students for the medical examination given during Welcome Week; (2) acquaint new students with the services available to them; (3) assist students in using these services; and (4) make the medical examination a positive learning experience.

St. Paul Campus—Table VI presents the outpatient and hospital services of the St. Paul Campus Health Service. The number of students using the outpatient department on the St. Paul Campus has increased in proportion to the number of students registered. The number of students hospitalized and the total number of hospital days were very low.

Faculty Examinations—There were 256 medical examinations given to new members of the academic staff and those promoted to positions implying tenure during the biennium. This is somewhat less than during the preceding biennium.

Civil Service Examinations—Medical examinations were given to 1,300 individuals applying for positions on the regular payroll of the Civil Service staff. This is slightly more than in the previous biennium. There were four individuals who were found to have disabilities preventing employment for the type of work for which they were applying.

Environmental Health—The opportunity to provide professional services in environmental health and safety for the protection of students, staff, and the public has continued during the biennium with many new developments. In the area of student housing, the staff has worked extensively with fraternity and sorority corporations in making major building additions or alterations for greater fire safety. The continued excellent co-operation with the official city departments, the responsible University departments and these organizations has resulted in many major improvements. The staff has worked closely with the University administration in resolving the special housing problems of the Winchell Co-operative Cottages and Grove East.

The University-operated food services have made many improvements in sanitation during this period, and the staff has had an opportunity to assist in the layout, design and installation of much of the new equipment that has been provided. During this period the staff worked closely with University Services in the planning for the new Milk Pasteurization Plant, and the Food Stores Building.

To an increasing extent, the Occupational Health Engineer is becoming involved with the special health problems resulting from the development and use of new chemicals and new processes. Surveillance of laboratories and service areas has continued for the control of mercury vapors, carbon monoxide and other toxic exposures. Assistance has been provided for special problems of ventilation with specific attention to design of fume hoods. Many of the design standards have been incorporated into the Physical Plant Department recommended specifications for architects and contractors. Arrangements have been made to review research proposals to assist in anticipating environmental health problems that will result from such research. Similarly, arrangements have been made to review space assignments to anticipate both environmental health and safety problems that might result from use of such space.

There have been several developments in the radiological health program that have improved this service. A procedure has been implemented for the review of requisitions for purchase of radioisotopes. The Purchasing Department has given excellent co-operation in developing this procedure. All of the academic departments and research personnel have co-operated in the implementation of a procedure for central receiving of radioisotope shipments. Deliveries are made to the Health Service to facilitate initial monitoring for contamination. Then the shipments are delivered promptly to the user, thus providing an opportunity to check further on the receipt and use of these materials. The Health Service has received permits from the Atomic Energy Commission to meet legal requirements for the storage and disposal of radioactive wastes. During the biennium the Health Service assumed responsibility for University compliance with State Board of Health regulations covering registration and supervision of all sources of radioactive materials. With the co-operation of the large number of University personnel that were involved, these requirements were effectively carried out. The health physics personnel carried out a number of major decontamination tasks, including dismantling and decontamination of a radon plant in the Chemistry Building. The health physicists have assisted in the approval and implementation of a general authorization for the use of radioisotopes for the departments of the College of Medical Sciences and University Hospitals.

The general safety program has been increasingly well received during this time. A particularly significant development has been the establishment and practice of fire drill procedures for all of the dormitories. A number of basic difficulties have been overcome with the support and co-operation of dormitory personnel, so that now the drills can be carried out on a routine basis. A procedure has also been developed for reporting emergency conditions so that they may be investigated by the safety engineer to facilitate prevention of recurrence. An inspection program has been carried out for all of the major buildings and the recommendations following inspections have

been well received by the departments in the buildings and the Physical Plant Department. To an increasing extent, accepted standards of environmental health and safety are being incorporated in new building plans. During the past year the safety engineer has had an opportunity to present a course in laboratory safety to graduate students and teaching assistants in the Chemistry Department.

The Division has received requests for assistance at a number of out-state University facilities, including Hormel Institute, the Cedar Creek Research Facility, and the campuses of Waseca and Morris. These opportunities to provide service have demonstrated the need for an extension of the program to all of the out-state installations.

During the biennium, members of the staff have been involved also in teaching and research. Personnel in the Division have assisted the School of Public Health in carrying on a special summer course, sponsored by the ICA and the WHO, for the development of community ground water supplies.

TABLE I. NUMBER OF COMPLETE MEDICAL EXAMINATIONS GIVEN

Year	Entrance	Periodic	Total
1950-51	7,054	3,570	10,624
1951-52	5,397	4,090	9,487
1952-53	5,831	2,894	8,725
1953-54	6,319	3,095	9,417
1954-55	7,251	3,560	10,811
1955-56	8,260	4,078	12,338
1956-57	8,510	4,375	12,885
1957-58	8,223	4,616	12,839
1958-59	8,680	4,940	13,620
1959-60	8,590	4,449	13,039

TABLE II. VISITS TO THE HEALTH SERVICE (MINNEAPOLIS CAMPUS) FOR MEDICAL ATTENTION

Year	Number of Visits*	Average Number of Visits per Student (Academic Year)
1950-51	68,947	3.31
1951-52	64,587	3.50
1952-53	83,222	5.09
1953-54	72,684	4.40
1954-55	81,328	4.65
1955-56	91,011	4.62
1956-57	107,060	5.08
1957-58	113,653	5.28
1958-59	113,497	5.09
1959-60	99,021	4.53

* These totals do not include visits for physical examinations, dentistry, hospitalization, immunity tests, physiotherapy, laboratory or x-ray services.

TABLE III. STUDENT HOSPITAL CARE (MINNEAPOLIS AND ST. PAUL CAMPUSES)

Year	Number of Patients			Rate per 1,000 Students (per Academic Year)	Number of Hospital Days			Average Stay in Days
	Mpls.	St. Paul	Total		Mpls.	St. Paul	Total	
1950-51	1,189	54	1,243	67.1	4,364	174	4,538	3.7
1951-52	919	37	956	58.3	3,252	112	3,364	3.5
1952-53	1,199	98	1,297	79.3	4,063	199	4,262	3.3
1953-54	1,137	20	1,157	70.0	3,835	64	3,899	3.4
1954-55	1,249	38	1,287	73.7	3,909	161	4,070	3.2
1955-56	1,491	48	1,539	78.1	4,839	144	4,983	3.2
1956-57	1,434	40	1,474	69.9	4,609	117	4,726	3.2
1957-58	2,057	471	2,528	117.5	7,037	1,655	8,692	3.4
1958-59	1,561	35	1,596	71.6	5,549	91	5,640	3.5
1959-60	1,412	14	1,426	65.3	5,543	41	5,584	3.9

Research—The Health Service, jointly with the School of Public Health, has received a grant from the U. S. Public Health Service for a study of air pollutants from the grain industry as related to the incidence of asthma on the Minneapolis Campus. The original grant for \$25,000 became effective January 1, 1959 and was renewed for a like amount January 1, 1960. A special research grant from the Sister Elizabeth Kenny Foundation and from the Hill Family Foundation was made to the health educator for a study of "The Characteristics of New University of Minnesota Students with Regard to Acceptance or Rejection of Polio Vaccination."

The Division of Environmental Health of the Health Service received a research grant of \$47,000 from the National Institutes of Health for a study of "Bacterial Contamination from Hospital Solid Wastes." This Division is also carrying on a pre-operational radiological environmental survey of the Elk River Nuclear Power Reactor Site for the Elk River Rural Cooperative Association and the Atomic Energy Commission.

The Health Service is continuing to participate in a nationwide study carried on co-operatively with the U. S. Public Health Service on the incidence of rheumatic fever in college-age students.

TABLE IV. SPECIAL DIET TABLE—KIND AND NUMBER OF CASES

Type of Diet	1958-59		1959-60*	
	Number on Diet	Per Cent	Number on Diet	Per Cent
Allergy	2	1.98	0	.....
Bland	20	19.80	10	22.73
Diabetic	12	11.88	3	6.82
High Calorie Liquid	1	.99	1	2.27
Hypoglycemia	0	.....	1	2.27
Low Calcium Test	0	.....	1	2.27
Low Calorie	54	53.47	26	59.10
Low Cholesterol	2	1.98	1	2.27
Low Fat	8	7.92	1	2.27
Low Residue	1	.99	0	.....
Low Salt	1	.99	0	.....
Total	101	100.00	44	100.00

* Diet table closed during summer and fall of 1959. Area occupied by Pharmacy.

TABLE V. AVERAGE NUMBER OF PATIENTS SERVED DAILY

Quarter	1958-59	1959-60
	Average Number	Average Number
Summer	21.38	.....
Fall	20.29	.....
Winter	26.76	14.53
Spring	21.46	15.23

TABLE VI. ST. PAUL CAMPUS HEALTH SERVICE: OUTPATIENT DEPARTMENT

Year	Medical Attention	Number of Hospital Patients	Number of Hospital Days	Total Services Rendered
1950-51	3,793	54	174	5,302
1951-52	2,675	37	112	3,484
1952-53	2,660	98	199	3,477
1953-54	2,503	20	64	3,594
1954-55	2,428	38	161	4,129
1955-56	3,025	48	144	5,173
1956-57	4,033	40	117	7,612
1957-58	5,006	471	1,655	7,757
1958-59	3,999	35	91	6,274
1959-60	2,730	14	41	4,625

UNIVERSITY PRESS

The first heading under which the activities of the University Press in the biennium should be discussed, appropriately enough, is that of its publications. Without in any sense meaning to slight a number of other deserving works, particular mention should be made of the following (in the order of their publication): *The Physiology and Pathology of the Cerebellum*, a massive volume by Drs. Robert S. Dow and Giuseppe Moruzzi, which will be followed by a companion volume, *The Anatomy of the Cerebellum*, by Dr. Olof Larsell; *From Jane Austen to Joseph Conrad*, edited by Robert C. Rathburn and Martin Steinmann, Jr., both of the University of Minnesota faculty, a book which has received a good deal of attention and sold very well (it was prepared in honor of the late Professor James T. Hillhouse, and is one example of the fact that a *festschrift* can be an important work in its own right, in addition to honoring a scholar); *Minnesota's Changing Geography* by John R. Borchert, chairman of the University's Department of Geography, a much-needed textbook for the fourth through sixth grades in Minnesota schools and one of the first books that the University Press has published for this age group; *The Onset of Stuttering: Research Findings and Implications*, a major work by Wendell Johnson, one of the world's leading authorities on stuttering, and his associates; the University of Minnesota Pamphlets on American Writers, a series of critical introductions to the work of important American authors which was inaugurated in October, 1959, under the editorship of Professors William Van O'Connor and Allen Tate of the University's English Department and the novelist and critic, Robert Penn Warren; *A Vocabulary of Modern Spoken Greek*, by Donald C. Swanson of the University's Classics Department, which should become the standard reference work for English-speaking users; and, published on the eve of his retirement, James Lewis Morrill's *The Ongoing State University*, in which President Morrill sets forth his philosophy and ideas as to the problems and challenges facing a major state university.

Two other important books were also distinguished by receiving awards. Warren C. Price's *The Literature of Journalism: An Annotated Bibliography* won two honors: the Sigma Delta Chi Award for Research about Journalism and the Kappa Tau Alpha Research Award. A third award was made to Vsevolod Slessarev of the University of Minnesota, the author of *Prester John: The Letter and the Legend*. The award was the 1960 Genevieve Gorst Herfurth Award for Outstanding Research in the Social Sciences, presented by the University of Wisconsin.

A series of twelve television programs featuring authors of University Press publications was presented weekly throughout the spring quarter of 1960 as one of the University's television offerings. The series was entitled "Meet the Author" and it consisted of interviews with prominent Press authors by the director of the Press. One of the values of the series, it is felt, is that it further acquainted the academic and general community with not only specific books but the Press's program as a whole.

Scouting for and development of good book manuscripts continued to be intensive. A particular effort has been made to locate good projects on India; some promising ones continue to be explored, but there are also a number of Indian projects which have proved to be disappointing for reasons of style and scholarship.

In the matter of promotion of books, the type of approach has differed according to the nature of the book. Particular note might be made of the persistent efforts in behalf of *Minnesota's Changing Geography*, including engaging the services on a commission basis of a special sales representative to Minnesota schools; these efforts have resulted in a significant number of adoptions throughout the state. Promotional efforts, through mailings and otherwise, have also been especially intensive in the case of the University of Minnesota Pamphlets on American Writers.

Sales rose in the first year of the biennium to a record high of \$189,482, then fell slightly in the second year to \$182,707.13. One of the factors in this slight decrease, which is not at all alarming, is the very heavy initial sale of *Minnesota's Changing Geography* in the first year of the biennium.

As planned in the previous biennium, sales representation was extended during 1958-60 to the South, the one area of the country in which a representative had not been calling on booksellers. Current plans include further investigation of publication in paperback form, and the possible addition of a second sales agency in India in order to take better advantage of the market for English-language books there. As to needs, the most important remains an extension of support of Press salaries beyond the present support of part of the director's salary, a move which would enable the Press to achieve more flexibility in its budget and thereby plan with more confidence.—
JOHN ERVIN, director

BOOKS AND PAMPHLETS ISSUED

July 1, 1958-June 30, 1960

- Variables Related to Human Breast Cancer.* By V. Elving Anderson, Harold O. Goodman, and Sheldon C. Reed. Published July 7, 1958. \$4.00. xiv plus 172 pages. Hardbound. Edition: 1,540.
- The Use of Books and Libraries.* By Harold Russell, R. H. Shove, and Blanche Moen. 9th edition. Published July 15, 1958. \$1.75. v plus 93 pages. Paper. Edition: 5,000 bound.
- Counseling Use of the Strong Vocational Interest Blank* (Minnesota Studies in Student Personnel Work, No. 8). By Wilbur L. Layton. Published August 1, 1958. \$1.25. vi plus 40 pages. Paper. Edition: 3,030 bound.
- The Physiology and Pathology of the Cerebellum.* By Robert S. Dow, M.D., and Giuseppe Moruzzi, M.D. Published August 11, 1958. \$12.50. xvii plus 676 pages. Hardbound. Edition: 5,000 (3,000 bound).
- Ireland and the American Emigration, 1850-1900.* By Arnold Schrier. Published August 18, 1958. \$4.50. xii plus 210 pages. Hardbound. Edition: 1,000 bound.
- Rainer Maria Rilke: The Ring of Forms.* By Frank H. Wood. Published October 20, 1958. \$4.50. viii plus 240 pages. Hardbound. Edition: 1,000 bound.
- The Obedience of a King of Portugal.* Translated by Francis M. Rogers. Published October 21, 1958. \$5.00. xii plus 120 pages. Hardbound. Edition: 500 bound.
- A Century of Art and Architecture in Minnesota.* By Donald R. Torbert. Published November 3, 1958. \$1.00. ii plus 62 pages. Paper. Edition: 5,500.
- Music and Theater in Minnesota History.* By John K. Sherman. Published November 3, 1958. \$1.00. ii plus 66 pages. Paper. Edition: 5,500.
- A History of Minnesota Books and Authors.* By Grace Lee Nute. Published November 3, 1958. \$.75. ii plus 42 pages. Paper. Edition: 3,000.
- A History of the Arts in Minnesota.* Edited by William Van O'Connor. Published November 3, 1958. \$3.00. vi plus 166 pages. Hardbound. Edition: 2,000 bound.
- The Two Ends of the Log: Learning and Teaching in Today's College.* Edited by Russell M. Cooper. Published November 14, 1958. \$4.00. xviii plus 317 pages. Hardbound. Edition: 2,500 bound.
- In Search of Identity: The Japanese Overseas Scholar in America and Japan.* By John W. Bennett, Herbert Passin, and Robert K. McKnight. Published December 10, 1958. \$7.50. xii plus 369 pages. Hardbound. Edition: 1,500 bound.
- The Wilderness and Other Poems.* By Louis O. Coxe. Published December 30, 1958. \$2.50. viii plus 68 pages. Hardbound. Edition: 1,000 bound.
- From Jane Austen to Joseph Conrad.* Edited by Robert C. Rathburn and Martin Steinmann, Jr. Published December 30, 1958. \$5.75. xii plus 326 pages. Hardbound. Edition: 3,000.
- Minnesota's Changing Geography.* By John R. Borchert. Published January 2, 1959. \$4.25 (Text: \$3.00). vi plus 191 pages. Hardbound. Edition: 20,000 (13,000 bound).
- The Foundations of Science and the Concepts of Psychology and Psychoanalysis* (Volume I, Minnesota Studies in the Philosophy of Science). Edited by Herbert Feigl and Michael Scriven. Published January 23, 1959. \$5.00. xiv plus 346 pages. Hardbound. Edition: 1,000 bound.
- Price Discrimination in Property and Liability Insurance* (University of Minnesota Studies in Economics and Business, No. 19). By C. Arthur Williams, Jr. Published March 2, 1959. \$2.50. viii plus 100 pages. Paper. Edition: 1,740.
- The United States and the Treaty Law of the Sea.* By Henry Reiff. Published March 2, 1959. \$8.00. xii plus 451 pages. Hardbound. Edition: 1,000 bound.
- The Onset of Stuttering: Research Findings and Implications.* By Wendell Johnson and associates. Published March 16, 1959. \$5.00. xvi plus 519 pages. Hardbound. Edition: 5,000 (2,500 bound).
- Heiress of All the Ages: Sex and Sentiment in the Genteel Tradition.* By William Wasserstrom. Published April 27, 1959. \$4.00. xii plus 157 pages. Hardbound. Edition: 3,000 bound.
- The Revival of Metaphysical Poetry: The History of a Style, 1800 to the Present.* By Joseph E. Duncan. Published May 15, 1959. \$4.50. x plus 227 pages. Hardbound. Edition: 1,500 bound.
- British Investments in Latin America, 1822-1949: A Case Study in the Operations of Private Enterprise in Retarded Regions.* By J. Fred Rippey. Published May 25, 1959. \$5.00. xii plus 249 pages. Hardbound. Edition: 1,000 bound.

- The Italian Fascist Party in Power: A Study in Totalitarian Rule.* By Dante L. Germino. Published June 8, 1959. \$4.50. xii plus 181 pages. Hardbound. Edition: 2,000.
- Organization and Control of the Smaller Enterprise* (University of Minnesota Studies in Economics and Business, No. 20). By Douglas C. Basil. Published May 29, 1959. \$2.50. vi plus 97 pages. Paper. Edition: 1,700 bound.
- Counseling Points of View* (Modern School Practices Series, No. 3). Edited by Willis E. Dugan. Published June 15, 1959. \$1.50. vii plus 48 pages. Paper. Edition: 3,000 bound.
- An MMPI Codebook for Counselors.* By L. E. Drake and E. R. Oetting. Published August 12, 1959. \$3.75. viii plus 140 pages. Hardbound. Edition: 2,500.
- Minnesota's Changing Geography* (Teacher's Guide plus basic textbook). By John R. Borchert and Katherine Michaelsen. Published September 1, 1959. \$5.00. iv plus 89 and vi plus 191 pages. Hardbound. Edition: 1,200 bound.
- The Geology of Cook County, Minnesota* (Minnesota Geological Survey Bulletin, No. 39). By Frank F. Grout, Robert P. Sharp, and George M. Schwartz. Published September 25, 1959. \$4.00. xvi plus 163 pages. 16 maps in pocket. Hardbound. Edition: 1,000 bound.
- Treaty Trip.* By Donald C. Greene and George Knox. Published October 5, 1959. Free. vi plus 42 pages. Paper. Edition: 1,000 bound.
- The Literature of Journalism: An Annotated Bibliography.* By Warren C. Price. Published September 25, 1959. \$10.00. xviii plus 489 pages. Hardbound. Edition: 1,000 bound.
- Certain Language Skills in Children: Their Development and Interrelationships* (Child Welfare Monograph, No. 26). Second printing. By Mildred C. Templin. Published September 16, 1959. \$4.00. xviii plus 183 pages. Hardbound. Edition: 1,000.
- William Faulkner* (University of Minnesota Pamphlets on American Writers, No. 3). By William Van O'Connor. Published October 19, 1959. \$1.00. iv plus 43 pages. Paper. Edition: 9,000 bound.
- Robert Frost* (University of Minnesota Pamphlets on American Writers, No. 2). By Lawrence Thompson. Published October 19, 1959. \$1.00. iv plus 43 pages. Paper. Edition: 9,000 bound.
- Ernest Hemingway* (University of Minnesota Pamphlets on American Writers, No. 1). By Philip Young. Published October 19, 1959. \$1.00. iv plus 44 pages. Paper. Edition: 9,000 bound.
- Modern Sampling Methods: Theory, Experimentation, Application.* By Palmer O. Johnson and Munamarty S. Rao. Published October 16, 1959. \$4.00. viii plus 88 pages. Hardbound. Edition: 1,000 bound.
- The Two Ends of the Log: Learning and Teaching in Today's College.* 2nd printing. By Russell M. Cooper, editor. Published October 15, 1959. \$4.00. xviii plus 317 pages. Hardbound. Edition: 1,500 bound.
- Prester John: The Letter and the Legend.* By Vsevolod Slessarev (translator). Published November 9, 1959. \$6.00. viii plus 127 pages. 12 facsimile pages. Hardbound. Edition: 650 bound.
- Farm Prices: Myth and Reality.* By Willard W. Cochrane. 2nd printing. Published 1959. \$4.00. x plus 189 pages. Hardbound. Edition: 1,048 bound.
- The Other Journey: Poems New and Selected.* By Katherine Garrison Chapin. Published December 4, 1959. \$3.00. viii plus 98 pages. Hardbound. Edition: 1,000.
- Portrait of Your Niece and Other Poems.* By Carol Hall. Published December 14, 1959. \$2.75. viii plus 55 pages. Hardbound. Edition: 750.
- Vocabulary of Modern Spoken Greek.* By Donald C. Swanson. Published December 28, 1959. \$5.00. 408 pages. Limp cover. Edition: 975.
- MMPI Booklet* (Spanish Translation). By Starke R. Hathaway and J. Charnley McKinley. Published December 21, 1959. Price: 1-24 copies, \$30 copy; 25 copies, \$6.00. 16 pages. Paper. Edition: 5,000.
- Studies in American Culture: Dominant Ideas and Images.* By Joseph J. Kwiat and Mary C. Turpie, editors. Published January 4, 1960. \$4.75. viii plus 233 pages. Hardbound. Edition: 1,500.
- A Pioneer in Northwest America, 1841-1858: The Memoirs of Gustaf Unonius* (Volume II). Translated by Jonas Oscar Backlund; edited by Nils William Olsson. Published February 19, 1960. \$7.50. viii plus 357 pages. Hardbound. Edition: 1,750.
- Approaches to the Study of Administration in Student Personnel Work* (Minnesota Studies in Student Personnel Work, No. 9). Edited by Martin L. Snoko. Published March 23, 1960. \$1.50. viii plus 71 pages. Paper. Edition: 1,000.
- Products Liability in the Automobile Industry: A Study in Strict Liability and Social Control.* By Cornelius W. Gillam. Published April 8, 1960. \$4.75. x plus 239 pages. Hardbound. Edition: 1,000.
- Interval of Freedom: Soviet Literature During the Thaw, 1954-1957.* By George Gibian. Published April 22, 1960. \$4.25. xii plus 180 pages. Hardbound. Edition: 2,000.
- Basic Readings on the MMPI in Psychology and Medicine.* Edited by George S. Welsh and W. Grant Dahlstrom. 2nd printing. Published February 10, 1960. \$8.75. xviii plus 656 pages. Hardbound. Edition: 1,500.
- Understanding Ourselves.* By Marion L. Faegre. 12th printing. Published February 29, 1960. \$.50. iv plus 43 pages. Paper. Edition: 20,000.
- Improve Your Reading: A Manual of Remedial Reading Exercises.* By Frances O. Triggs. 12th printing. Published March 2, 1960. \$1.50. vi plus 127 pages. Paper. Edition: 4,000.
- The Use of Books and Libraries.* By Harold Russell, R. H. Shove, and Blanche Moen. 9th edition, 2nd printing. Published March 4, 1960. \$1.75. vi plus 93 pages. Paper. Edition: 8,000.

- Ernest Hemingway* (University of Minnesota Pamphlets on American Writers, No. 1). 2nd printing. By Philip Young. \$.65. 48 pages. Paper. Edition: 8,000.
- Robert Frost* (University of Minnesota Pamphlets on American Writers, No. 2). By Lawrence Thompson. 2nd printing. Published March 21, 1960. \$.65. 48 pages. Paper. Edition: 8,000.
- William Faulkner* (University of Minnesota Pamphlets on American Writers, No. 3). By William Van O'Connor. 2nd printing. Published March 21, 1960. \$.65. 48 pages. Paper. Edition: 8,000.
- The Idea of Louis Sullivan*. By John Szarkowski. 2nd printing. Published April 21, 1960. \$10.00. vi plus 163 pages. Hardbound. Edition: 551.
- The Ongoing State University*. By James Lewis Morrill. Published May 25, 1960. \$3.50. x plus 143 pages. Hardbound. Edition: 2,000.
- Politics in Minnesota*. By G. Theodore Mitau. Published May 18, 1960. \$1.95. viii plus 140 pages. Paper. Edition: 4,000.
- Anna Livia Plurabelle: The Making of a Chapter*. Edited by Fred H. Higginson. Published May 16, 1960. \$3.75. viii plus 111 pages. Hardbound. Edition: 1,522.
- Henry James* (University of Minnesota Pamphlets on American Writers, No. 4). By Leon Edel. Published May 27, 1960. \$.65. 47 pages. Paper. Edition: 10,000.
- Mark Twain* (University of Minnesota Pamphlets on American Writers, No. 5). By Lewis Leary. Published May 27, 1960. \$.65. 48 pages. Paper. Edition: 10,143.
- Thomas Wolfe* (University of Minnesota Pamphlets on American Writers, No. 6). By C. Hugh Holman. Published May 27, 1960. \$.65. 47 pages. Paper. Edition: 10,000.

MINNESOTA MUSEUM OF NATURAL HISTORY

Research—The Museum's research program has been greatly expanded with the following grants of funds from outside its regular support budget:

1. *The Maud and Louis Hill Family Foundation, \$40,000*—(2 years study). D. W. Warner and John Tester (jointly with James Hartnett, U. of Minn. Institute of Technology). A study of motile responses of animals to radiation fields and other environmental factors.
2. *U. S. Atomic Energy Commission, \$16,270*—W. J. Breckenridge and John Tester. Factors influencing animal distributions in an ecotone area.
3. *U. S. Department of Health, Education and Welfare, \$9,319*—D. W. Warner and Eugene LeFebvre. Energy requirements of birds under varying activity levels.
4. *National Science Foundation, \$7,800*—D. W. Warner and Gerald Robinson. The effect of prolactin on the breeding behavior of cowbirds.
5. *University of Minnesota Graduate School, \$6,318*—(Eight grants). W. J. Breckenridge, D. W. Warner, John Tester and Harvey Gunderson.

Research in other institutions was aided by the loan of 66 mammals, 67 birds and 193 reptiles and amphibians from the Museum's collections. Local researches were aided by loans from other institutions of 111 birds.

Exhibits—The preparation department personnel have turned much of their attention to aquatic displays and two exhibits showing Northern Pike-Muskellouge and the Large-mouthed and Small-mouthed Bass were completed. The 10 small exhibit spaces in half of one of the side corridors were rebuilt to accommodate 4 larger displays. The series of changing panel exhibits has been continued although curtailed funds in 1959-60 forced the technician assigned to this work to assume other duties including those of librarian. Sixteen of these displays were installed for varying periods during the biennium. The 125 small traveling habitat displays have served the schools and state parks on 1,977 individual loan assignments. The work of the Museum has been publicized by five special exhibits for occasions such as Editors' and Legislators' Day and University Week.

Attendance—Museum attendance was 48,572 in 1958-59, and 56,778 in 1959-60, for a biennial total of 105,350. This does not include persons attending non-Museum functions in the Auditorium. Guided tours were given for 379 groups of 11,707 visitors during 1958-59 and for 396 groups, 13,141 visitors during 1959-60, for a total of 775, group of 24,848 visitors.

Lectures—The free Sunday afternoon series of natural history programs continue to be popular with a total of 26,222 attending the 44 programs (1958-59, 21 programs, 12,447; 1959-60, 23 programs, 13,775). The average attendance was about 600. Double showings on several occasions account for the attendance in excess of the seating capacity of the auditorium of 470. Fourteen of these programs were given by Museum staff members. In addition to the Sunday series, Museum staff members gave 229 lectures, mostly outside the Museum, to audiences totaling 48,715. Included in this number are two 2-week and one month-long lecture tours by W. J. Breckenridge given at the request of the National Audubon Society. Fifty-two lectures were given in 46 cities throughout eastern and central United States. Staff members made 18 TV and radio appearances, several of which were recorded for repeated presentation.

Park Naturalist Project—The Museum has continued to conduct the Nature Interpretation Program in the State Parks with financial support from the Division of State Parks of the Minnesota Department of Conservation. Four naturalists conduct trail walks, evening programs, car caravans, museum exhibits and self-guiding trails in Itasca (two naturalists), Gooseberry Falls and Whitewater Parks. In addition self-guiding trails are set up in eight additional parks. The continued popularity of this service is indicated by the fact that during the 1959 season 731 persons were personally contacted by each naturalist during each week for a total of 35,831 contacts during the summer. The total program, including Museum visitors and self-guiding trail users, served over 225,000 visitors.

Gifts—A fund of \$9,350.00 was gathered by Mr. Charles Bell from a group of friends and made available to the Museum for the production of a 28-minute game management film to be called "Outdoor Heritage—The Big Four." The University Audio-Visual Education Service is co-operating in its production and plans are to release the film in September, 1960.

Mrs. Kate Koon Bovey has agreed to make available to the Museum \$48,381.00 for the reissuing of 20,000 copies of "Bird Portraits in Color" by the University Press. The agreement contains the generous provision that if sales do not return the total publication costs, she will contribute the difference.

General Mills financed an opinion poll conducted by professional personnel aimed at securing data on a segment of public attitude toward the work of the Minnesota Museum of Natural History and to its possible expansion. In addition to this, Mr. J. F. Bell has continued throughout the biennium his monthly gifts of \$75.00 for incidental Museum expenses. This is deposited in the First National Bank under the name of W. J. Breckenridge, Trustee.

Mr. Gaylord Davidson contributed the library of his late mother, Mrs. Gaylord Davidson, Sr., consisting of 126 volumes plus numerous periodicals valued at \$1,200.00.

Charles and Henry Peterson donated the library of their late mother, Mrs. C. E. Peterson, Sr. The number of volumes and value has not as yet been determined.

Gifts from 14 individuals totaling \$1,391.00 have been received and deposited in the Museum Building Fund (0890-0834).

The scientific collections of the Museum have been increased through gifts from many donors of 221 birds, 235 mammals, 241 reptiles and 959 amphibians.

Publications—Staff members have revised the text of *Bird Portraits in Color* to be published this fall through the Minnesota University Press. Staff members have published 38 articles in professional journals and magazines. The Ph.D. thesis of Museum Assistant Scientist John R. Tester is now in the hands of the University of Minnesota Press for publication as Occasional Papers No. 8. Income of \$913.51 from the sale of Museum books published by the University Press together with income from film sales (see photography) has been deposited in budget 9909-2768 for aid in further publications. Profits of \$1,925.89 from sales at the Museum bookcounter are also placed in this fund.

Photography—See "Gifts" for data on 16 mm film now in production. Approximately 2,000' of 16 mm color film was exposed by the Museum staff for

this film. About 1,000' of 16 mm movie film was added to the library of natural history films for educational use. The 2" x 2" slide collection was increased by 350 slides by staff workers. Income from sales of prints of Museum-produced 16 mm films of \$1,450.62 has been deposited in our budget 9909-2768 for aid in further film production in publications.

Future Plans—As pointed out in previous reports, the present building is becoming progressively less adequate for the numerous expanding activities of the Museum staff. A larger auditorium has been needed for several years; public exhibit space is now nearly completely occupied; both the Departments of Geology and Anthropology have abandoned their public exhibits in anticipation of space in a new museum wing, and the Museum's very rapidly expanding research program needs additional space for both workers and growing collections. Regent J. F. Bell, who has long supported the Museum's program, has offered a substantial gift to initiate a building expansion program. At his suggestion the "Opinion Poll," mentioned under "Gifts," was carried out and the results suggested strongly that a fund drive for this expansion would have excellent chances of success. In anticipation of the Museum's raising approximately \$250,000.00 in private gifts, the University Administration has agreed to submit in the next biennial budget for legislative support a request for a like sum. Mr. Whitney Eastman, formerly a vice-president of General Mills, has agreed to chair a committee undertaking to secure these funds during the next few months.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

Mission—During the biennium the Army ROTC continued its primary mission of training male students for commissions as Second Lieutenants in the United States Army Reserve, with the major objective of developing leadership concurrently with the student cadet's attainment of a baccalaureate degree.

Curriculum—A general military science curriculum stresses leadership training during 4 years of college and leads to commissions in any 1 of 15 branches of the Army according to individual preference, academic background, and the requirements of the Army.

A distinct part of this GMS program is the graduate Lieutenant's attendance at the Officers' Basic Branch School when he first goes on active duty.

The active duty requirements of an Army Reserve Officer continues to be 2 years with an option to request only 6 months of active duty for training. A delay in accepting active duty for up to 3 years while pursuing graduate study in any field may be requested.

Enrollment—The enrollment trend continues a steady rise that began with the fall quarter, 1956. If trends continue, the fall, 1960 freshman enrollment should be about 250.

TABLE I. 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	
1958-59	130	72	82	63	347
1959-60	119	97	49	75	340

There were 41 Distinguished Military Graduates during the biennium compared with 33 during the previous biennium period.

ROTC Graduates—A total of 166 students was commissioned during the biennium compared with 179 during the previous biennium period.

Reserve Officer Commissions 1958-59: 69
 Reserve Officer Commissions 1959-60: 89
 Regular Army Commissions 1958-59: 1
 Regular Army Commissions 1959-60: 7

Special Activities—The Cadet Regiment was reorganized as a Cadet Brigade during 1959. This is in consonance with latest Army tactical doctrine.

The Army Flight Training Program, leading to 3 years of active duty as an Army Aviator, and conducted on an extracurricular basis for seniors, continues; 6 cadets successfully completed the course during the 1958-59 school year, and 4 cadets completed during the 1959-60 school year.

The Pershing Rifles, Scabbard and Blade Society, Army ROTC Rifle Team, and Brigade Band continued active during the biennium. Top honors have been awarded to each organization.

Faculty—The following table provides data concerning members of the department who served during the biennium.

TABLE II. MEMBERS OF THE DEPARTMENT OF MILITARY SCIENCE

Name	Grade	Branch	Reported	Departed
Dean M. Benson	Colonel	Arty	July 27, 1956	August 1, 1959
Roy K. Kauffman	Colonel	Arty	July 6, 1959	
Jesse E. Johnston	Lt. Colonel	Inf	February 15, 1956	August 1, 1959
Robert J. Elliott	Lt. Colonel	Arty	July 22, 1959	
William B. Carlton, Jr.	Major	Arty	August 22, 1958	
Clark Edwards	Major	Arty	May 9, 1956	
Richard A. Gessner	Captain	SigC	March 28, 1956	June 3, 1960
Robert C. Engle	Captain	OrdC	August 15, 1957	January 5, 1960
Clifford T. Rutledge	Captain	OrdC	July 9, 1959	

Inspections—The ratings for annual general inspections continued to be "Satisfactory," the highest rating, with comments as to excellent quality of the program.—ROY K. KAUFFMAN, *Colonel, 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.

Regular Student Enrollment—The annual enrollment in the Regular program has remained stable as the benefits to the student are so great that there are always many times more applicants than can be selected. Average enrollment was 44 students.

Contract Student Enrollment—Contract student enrollment has fallen short of that expected for an institution of this size. The problem is under continued study with effort being made to make every male entering freshman aware of the ROTC programs. Enrollment of contract students this biennium is as follows: Fall 1958—22; Fall 1959—21. Total this biennium is 43 compared with 71 for the last biennium.

Curriculum—The Naval Science curriculum remained substantially the same as during the preceding biennium with but few exceptions. The first quarter of the Naval Weapons course has now been suspended to permit all second-year NROTC students to take a suitable University psychology course as part of leadership training. The fourth-year course has placed additional emphasis on management functions.

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Summer Training Cruises—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
Robert O. Bowen	Col., USMC	August 26, 1957	June 30, 1960
Frank W. Ayers	Cdr., USN	November 5, 1956	June 26, 1959
Fred Laing	Cdr., USN	February 22, 1959	
Louis S. Hollier	Maj., USMC	August 20, 1957	June 30, 1960
Richard N. Dreese	Lt., USN	August 16, 1957	June 13, 1959
Ralph W. Leach	Lt., USN	September 22, 1956	June 17, 1959
James C. Loberger	Lt., USN	June 3, 1959	
Goodwin Donnelly	Lt., USN	August 17, 1959	
Louis H. C. Thiel	Lt., USN	August 21, 1958	June 23, 1960
Thomas A. Shannon	Lt., USN	September 8, 1957	June 30, 1959
Joseph M. McCabe	Lt.J.G., USNR	August 27, 1959	

NROTC Graduates during the Biennium—NROTC graduates of the University of Minnesota were commissioned as follows:

	Academic Year 1958-1959 (Including Summer Sessions 1958)	Academic Year 1959-1960 (Including Summer Sessions 1959)
Ensign, U. S. Navy	20	18
Ensign, U. S. Naval Reserve	8	8
2dLt., USMC	2	5
2dLt., USMCR	0	0
	30	31

Total for Biennium—61

All students who qualified for commissions were ordered to active military service within a month of being commissioned.—F. LAING, *Commander, 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	
1958-59	110	38	30	29	207
1959-60	99	42	22	30	193

During the period, the active duty tour for nonrated cadets was extended to 4 years beginning with those cadets who entered the Advanced Course after January 1, 1961. This action followed the Air Force pattern of emphasizing selection of career-minded cadets.

Also, during the period the detachment received advance information of the new Officer Education Program. Projected toward 1962 or 1963, this program completely changes the ROTC course, shortening it to 2 years and providing for 2 summer training tours instead of 1. The 2 years' course is offered the final 2 years of the student's University program. Considerably

increased financial aid through scholarship grants will be a feature of the new course.

Honors and Awards—Engineering student/cadets showed the results of superior training in the Institute of Technology. In each year, 1960 and 1961, a University of Minnesota AFROTC cadet enrolled in IT won the \$1,500 Link Foundation Scholarship award. This is offered on a nationwide, competitive basis to engineering cadets who are also members of the AFROTC national honor society, the Arnold Air Society.

The AFROTC drill team continued to rank high nationally in 1960 placing seventeenth in a field of 76 colleges at the Cherry Blossom Festival in Washington, D. C.

The Rifle Team also was prominent both years ranking about fifth nationally in 1960 and sixth in 1961.

Colonel Dern, professor of Air Science, was honored by the Arnold Air Society at its national convention, May 30, 1960. His citation was presented "For significant contributions to aerospace education and national security through distinguished leadership in the U. S. Air Force Reserve Officers Training Corps Program."

Curriculum—Air Force ROTC promulgated a change in the basic course which was approved by the University and effected fall, 1960. The modified course for basic instruction provides for reducing the hours of classroom instruction taught by Air Force instruction from 180 hours to 120 hours. Basic course students now enroll in selected University courses which meet Air Force requirements for precommission training and substitute these courses for Air Science courses. Such substitution occurs during the fall and winter quarters of the freshman year and spring quarter of the sophomore year. During these quarters, however, cadets attend a 1-hour leadership laboratory period each week. Air Science credit for the other 3 quarters, i.e., spring quarter AS 1 and fall and winter AS 2 was raised to 2 hours.—F. D. STOCKDALE, Major, USAF

DEPARTMENT OF CONCERTS AND LECTURES

During the past biennium the Department of Concerts and Lectures has continued to expand its activities and is increasing in its role as one of the major forces contributing to the establishment of the University of Minnesota as the cultural center of the Upper Midwest region of the United States.

This department has administered funds under 6 separate department numbers, during these past 2 years, indicating the wide scope of activity and interest of this unit of the University. Programs sponsored by the Department of Concerts and Lectures, both on the campus and throughout the Upper Midwest, were attended by over a million people during the past biennium.

The reports of each of these areas follow, and they in turn are followed by a section devoted to future plans and needs of the entire department.

University Artists Course—The past biennium has demonstrated most effectively the mercurial nature of the business of presentation of concerts. The first year of the biennium proved to be the most successful, financially, in the history of the Artists Course, and the second year of the biennium proved to be the most devastating, financially, in the history of this office. Average attendance in Northrop decreased from 4,551 patrons per performance in 1958-59 to 3,221 patrons per concert in 1959-60. The causes for this sudden and marked shift in this short period of time is the most pressing problem under consideration in the department at this time. The wisdom of the University to allow profits to accumulate to offset the inevitable deficits when they occur is certainly dramatized in these 2 years.

Two series of concerts were offered during 1958-59. These were the University Artists Course—Masterpiece Series, and the younger companion series, the University Artists Course—Celebrity Series. Nine special concerts were also presented during this year. During the first year of the biennium plans were announced for the presentation of a third series under the auspices of the University Artists Course. This was called the University Artists Course—

New Artists Series, and presented talented young performers who are in the initial stages of their career.

The development of the New Artists Series was conceived through the National Association of Concert Managers and based on a plan presented to that organization by James S. Lombard, the director of this department. Mr. Lombard was installed as the chairman of the New Artists Committee for the association, and it is largely through the efforts of his committee that the New Artists Series became a reality on this campus, and was tried experimentally in several other locations across the nation.

In 1959-60 the three series were presented in Northrop Auditorium under the auspices of the University Artists Course. There was a notable diminution of renewals of season tickets to both the established series for this year, and the failure of public response to the New Artists Series was completely disheartening. Individual sales for all presentations were below expectations.

1958-59		1959-60	
Masterpiece Series (7)	Attendance	Masterpiece Series (8)	Attendance
Roberta Peters	4,871	Blanche Thebom	3,832
Danish National Orchestra	4,868	Takarazuka	4,605
Jan Peerce	4,813	Philharmonia Hungarica	4,108
Alexander Brailowsky	4,780	David Bar-Illan	3,832
Artur Schnabel	4,922	Cesare Valletti	3,742
Szymon Goldberg	4,645	Bach Aria Group	4,125
National Ballet of Canada	4,822	Nathan Milstein	3,860
		Rudolf Serkin	4,136
Total Attendance (Masterpiece)	33,721	Total Attendance (Masterpiece)	32,240
Average Attendance	4,817	Average Attendance	4,030
Celebrity Series (3)		Celebrity Series (4)	
Mary Martin	4,815	Carlos Montoya	2,986
Andres Segovia	4,922	David Oistrakh	2,964
Robert Shaw	4,922	Chicago Opera Ballet	3,112
		Boston Opera Co.	2,338
Total Attendance (Celebrity Concerts in Northrop)	14,659	Total Attendance (Celebrity)	11,400
Average Attendance	4,886	Average Attendance	2,850
Specials at Northrop (9)		Specials at Northrop (14)	
F. M. Centennial Concerts (2)	9,000	Takarazuka	3,445
Jazz for Moderns	4,371	George Shearing	4,045
Beryozka (2)	9,428	Chicago Opera Ballet	1,227
Mary Martin	3,809	Minneapolis Symphony	1,294
Parade of Quartets	3,953	Moscow State Symphony (2)	5,039
National Ballet of Canada	2,601	Chris Conner	2,084
Kingston Trio	4,922	Shelley Berman	4,873
		Parade of Quartets	3,779
Total Attendance (Specials)	38,084	The Weavers	1,763
Average Attendance	4,232	Jazz Festival (3)	8,304
Total Northrop Attendance	86,464	Ballet Borealis (S.S.)	4,240
Average Northrop Attendance	4,551		
Celebrity Series (1)		Total Attendance (Specials)	40,093
(Williams Arena)		Average Attendance	2,864
Grenadier and Scots Guards	10,365	Total Northrop Attendance (26)	83,733
		Average Northrop Attendance	3,221
Total Attendance at UAC Concerts (20)	96,829	New Artists Series (4)	
Receipts	\$207,745.27	(Concerts presented in Concert Bowl)	
		Malcolm Frager	492
		Roald Reitan	858
		Barbara Meister	901
		Jaime Laredo	879
		Total Attendance (New Artists)	3,130
		Le Misanthrope	1,123
		Average Attendance in Concert Bowl	851
		Total UAC Attendance (31)	87,986
		Receipts	\$175,337.40

The year 1959-60 marked a significant increase in the number of events sponsored in co-operation with student and other organizations. Eight of the fifteen special concerts were co-operative ventures. Three of these were devoted to a 3-day Jazz Festival presented in co-operation with the Coffman Union Board of Governors. The lack of broad public interest in this festival indicated that there is not enough support for a large venture of this type and that it should not be repeated until proven otherwise. During the past year the office space within Northrop Auditorium was reallocated to make possible the long-range plan of this department to have all administrative offices as closely connected as practicable. The old gallery storeroom on the northeast corner of the auditorium was remodeled to provide an office for the assistant to the director, the business manager and to provide a mailing and work room. The ticket office was also remodeled to provide a more efficient, convenient and attractive office. Following is a recapitulation of concerts presented by the University Artists Course during the past biennium.

Metropolitan Opera—The visits by the Metropolitan Opera Company each season continue to be the most significant musical events in the Upper Midwest. Early in 1959 it was announced that the Metropolitan would not be able to return to this area in 1960, and that the 1959 season would be the last consecutive visit by the company. The result of this announcement led to a near record-breaking sell-out of tickets for the four performances in 1959. As the supposed climax to a history of 15 consecutive seasons in Northrop Auditorium, the Metropolitan presented a spectacular season of four operas, *Don Giovanni*, *Fledermaus*, *Cavalleria-Pagliacci*, and *Carmen*.

After a period of extended negotiation, the Metropolitan finally reversed its decision to by-pass the Upper Midwest in 1960 and, after a considerable adjustment of the Metropolitan Opera financial remuneration (\$35,642.00 fee increase), decided to continue the annual visits. The financial adjustment made a revision of ticket prices necessary. Prices were raised from the \$3.00 to \$8.00 scale for the 1959 season to a scale of \$4.00 to \$12.00 in 1960. The result of the 1960 season showed only 1 of the 4 performances completely sold out, but the highest gross income ever recorded for the Metropolitan performances. Total attendance for the 4 performances decreased 1,259 but ticket sale receipts increased \$27,352.00. The net result of the season showed a relatively small financial loss, which was covered from accumulated surpluses. The season was, again, a great artistic triumph, and included performances of *Simon Boccanegra*, *The Gypsy Baron*, *The Marriage of Figaro* and *Il Trovatore*.

In the coming year, the Metropolitan plans to extend its visit to the Upper Midwest to 6 performances to be presented in 5 days. The negotiated financial arrangement for this extended visit is better than last year. The prime problem will be to increase attendance by 50 per cent.

The Metropolitan is sponsored each year by the University, the Minnesota Orchestral Association and an Upper Midwest Committee of Sponsors and Grantors.

Special Cultural Projects Fund—The University of Minnesota's share of the profits resulting from past Metropolitan Opera presentations has been earmarked in this special fund to underwrite projects of a cultural nature that benefit the public at large which could not be undertaken with regular funds.

During 1958-59 this fund supplied the money to present copies of *Encore* (the Woman's Association of the Minneapolis Symphony's cookbook) to opera stars and artists who had submitted recipes that were used in the book. The need for furthering the careers of young artists and the necessity of engaging them as concert recitalists now, in order to help them on their climb up the stairway to stardom, as well as providing tomorrow's name attractions for local managers was publicized by the printing and national distribution of a New Artists Series brochure. This division paid the presentation cost of a free summer jazz concert. The services of the musicians for this concert were donated by the Minneapolis Musician's Union. This fund was used during 1959-60 to defray the net cost of the Welcome Week "Introduction to the Arts." The final payment of \$1,000 was made to Quaintance Eaton for writing "An

Opera Handbook." This manual is written with the expressed purpose of assisting the smaller communities and colleges of the United States in planning and producing operas. A printed Icelandic Quartet program was donated to the cities of the Upper Midwest which sponsored concerts by the Icelandic Quartet. The services of this group were made possible by foundation grants to acquaint our citizens with the music of Iceland and the State Department asked Mr. Lombard to arrange the tour. Other expenditures included travel expenses incurred in promoting the welfare of young artists on a national basis.

Summer Session Entertainment—While the money for the Summer Session entertainment programs comes from a recreation fee included as part of the Summer Session tuition and is controlled and administered by the office of the Summer Session, the Department of Concerts and Lectures actually handles the arrangements for concert and convocation programs presented in Northrop Memorial Auditorium.

Without the continued generous co-operation of the Minneapolis Musician's Association, it would be impossible for the University to maintain its unusually strong national reputation for presenting fine musical programs in the summer months. Funds to cover two-thirds of the cost of orchestral musicians performing in these summer concerts come through a grant from the Music Performance Trust Fund of the Recording Industry.

Convocations—Every Thursday morning at 11:30 during the regular school year, a convocation program is presented in Northrop Memorial Auditorium. These programs are presented primarily for the enlightenment and enjoyment of University students, faculty and staff members, but the public is always welcomed to hear these presentations. There is no admission charge. An attempt is made to cover a wide range of topics of general interest which include current events, history, theater, dramatic readings, music, foreign relations, sports, science, etc. Attendance fluctuates according to the seriousness of the topic being discussed but averages out to about 1,000 people per convocation.

Among the 30 convocations held during 1958-59, those leaving the most lasting impression were Margaret Mead, Don Cossack Chorus, Ralph Bunche, Irene Hawthorne, Olga Coelho, University Theater, Robert Fabian, etc. A total of 27 performances was presented in 1959-60. These included Agnes DeMille, Martin Luther King, Jr., Hanson Baldwin, Margaret Webster, Marais and Miranda, C. Northcote Parkinson, Bennett Cerf and J. Paul Mather to mention a few.

Traditional convocations include the President's opening program, Football Awards, Charter Day and Cap and Gown Day.

Special Lectures and Scientific Conferences—It is felt that one of the most important functions of this department is co-operating with colleges and other departments on this campus by bringing in special lecturers to speak on specific topics of special interest to small and select groups.

Though the audiences who hear these lecturers normally total only about 100 students, the message they have to deliver is of the utmost importance to those present in furthering their education or research. In most cases the department making the request for the speaker shares the cost of presentation. The honorariums are usually small and, normally, barely cover the guest speaker's travel expenses and lodging. This is a field that should be expanded ten-fold. It is definitely an augmentation to the standard curriculum and the benefits to students and staff members are immeasurable. Unfortunately, expansion has been seriously curtailed due to the limited funds available.

During 1958-59, 47 special lecturers were guests of the University. In 1959-60, 68 visiting authorities spoke to the students. Unfortunately, it was impossible to co-operate with many departments requesting speakers who were in the vicinity due to the inability to raise the modest fee requested. This problem is becoming more serious as the student enrollment increases.

University of Minnesota Program Service—The University of Minnesota Program Service provides concerts, lectures, plays and school assembly pro-

grams to schools (both public and parochial), colleges and community organizations of the Upper Midwest. The following summary reflects the past biennial operations:

	1958-59	1959-60
Number of Schools and Organizations Served	912	892
Number of Programs Presented	3,393	3,367
Estimated Attendance	407,400	401,400
Total Receipts	\$137,694.20	\$148,121.50

Since these programs appear in most of the schools in Minnesota, northern Iowa, eastern South Dakota and southern Canada, it is one of the best known out-city activities of the University and the Department of Concerts and Lectures. Every attempt is made to maintain the programs on a high cultural level while holding the prices of attractions low. This has presented quite a problem since the talent is demanding more and more money for their services and the school budgets have not been increasing proportionately to the rise in costs. Some schools have curtailed the number of assembly programs presented, others have discontinued them due to the lack of funds. Consequently, it has been necessary to be constantly on the lookout for new outlets either in the parochial schools or neighboring states to keep the volume high enough to keep the costs down. It is felt that the assembly programs serve a most worthwhile purpose as a supplement to the standard school schedule and that every effort should be made to increase the number of programs used in the schools.

A great variety of programs is included each year. For example during the past year, among others, tours featured a mentalist, marionettes, a science-fiction illustrated lecturer, acrobats, an animal show, a film lecture on New Guinea, a pianist, a drama duo, a group of folk singers, a cartoonist and a lecture-demonstration on earth satellites. Thus, both entertainment and educational programs were available to all who wanted them.

Drama Advisory Service and Loan Play Library—During the past biennium, the established programs of the service have continued to grow. The consulting service for high school, college and community theater-producing organizations has been maintained and further developed through more field trips. The workshop program for high school teachers and students has again been conducted independently and in co-operation with the Minnesota State High School League. In the past 2 years 157 teachers and over 600 students from 122 schools attended 11 Drama Advisory Service workshops. This office continues to work with the State High School League in an advisory capacity on the selection of materials for contest and festivals and the revision of rules governing such events. The annual State High School One-Act Play Festival was again managed by this office.

The Curtain Line, a quarterly publication of this office, has been sent to all producing organizations in the state and to national publications as a source of information on theater activities in this state. Other publications include a catalogue of long plays available on loan and a list of Civil War plays, for the coming centennial.

Work has been continued with the eight national, regional and state organizations with which this office maintains an active liaison.

The Loan Play Library continues as a major section of this office. In the past biennium, 5,551 books and plays were loaned to 1,606 users of the library. There has been some decrease in the use of the library as more and more qualified teachers are entering high school work, but the total use of the library remains substantial and significant. At the end of the biennium, 6,154 volumes are on hand in the library.

Besides the established programs of the service, additional services have been provided to meet the challenge of a burgeoning of theater activities in other than scholastic organizations. An increasing number of requests for aid has come from civic organizations, churches, play reading groups and hospitals. The most significant service rendered by this office in this area of operation has been the planning and establishment of a drama program at the Home School for Boys at Glen Lake.

Undoubtedly the greatest burst of theater activity in the state has come from the community theaters. When this office was first established, there were 3 such organizations in Minnesota; now there are 15 with which this office works. To meet the growth of community theater activity, this office organized the Minnesota Community Theatre Liaison Committee and worked with it to plan and conduct the first Minnesota Community Theatre Festival, the first in a series of seminars on community theater and workshops at the individual theaters. Two hundred forty-five community theater members have attended such events.

Special Needs—1. *Auditorium Renovation*—It is quite apparent that certain improvements and replacements are now needed in Northrop Auditorium. This building is now being used 2 or 3 times a day, 12 months a year for classes, instruction, lectures, concerts, and rehearsals.

- a. Air conditioning is most necessary with the increased summer usage of this building.
- b. The stage lighting control board has been here since the auditorium was built and is worn out and obsolete and ready to play out.
- c. The six proscenium spot lights are completely worn out and must be replaced.
- d. A new audio speaker system, for the present system is now inadequate for the increased usage of the hall.
- e. Additional space at stage level which would involve building on to the back of the building.

2. *Increased Funds for Convocations, Special Lectures, and Scientific Conferences*—With increased enrollment and higher costs the present budgetary allotment is entirely inadequate to procure the speakers that should be brought to college to further the educational and research development of our students, faculty and staff members.

With full responsibility for scheduling and maintaining the schedule in Northrop, and with more and more intricate co-operation with student and off-campus groups, all of the principal secretary's time and more than half of the director's time is devoted to general University endeavors, and salary support from the University should more accurately reflect this situation.—
JAMES S. LOMBARD, *director*

DEPARTMENT OF UNIVERSITY RELATIONS

General—Realizing that the University plays a vital role in the progress of the state, and that continued strong support from the people of Minnesota is essential to the advancement of the University, the Department of University Relations continued during the biennium to concentrate on keeping the people of Minnesota fully informed about the goals and operations of their university, and on helping the University achieve mutually beneficial relationships with an ever-increasing number of individuals and organizations throughout the state.

Fund-Raising—The fund-raising activities of private groups and individuals continued to occupy much of the Department's attention. Mr. H. Rowatt Brown presented an additional gift of electronic bells to augment the Frances Miller Brown Memorial Bells; the million-dollar Masonic Memorial Hospital, constructed with funds raised by the Masons of Minnesota, opened in the fall of 1958; the Minnesota Landscape Arboretum, established with the help of the Minnetonka Garden Club, the State Horticultural Society, and the garden clubs of the state, was dedicated in the fall of 1958; the fifth floor addition to the Variety Club Heart Hospital was presented to the University by the Variety Club of the Northwest; the V.F.W. Cancer Research Center, constructed with funds raised by Minnesota V.F.W. posts and auxiliaries, was completed in the fall of 1959; and trade unions and other groups continued to provide funds for scholarships. In all of these fund-raising and related activities, the Department of University Relations played an active part.

Because support from private individuals and groups contributes significantly to the progress of the University, the Department has sought, through a variety of means, to convey to the benefactors the University's deep and sincere gratitude. The Regents Award, one means by which the University says "thank you," was presented to six benefactors during the biennium. The Department handled the arrangements for the presentations and made a special effort to make the occasions meaningful to the benefactors.

Donald J. Cowling received his award at a dinner co-sponsored by the University and Carleton College; a small delegation of Regents and University officials visited Earle Brown at his farm in Brooklyn Center to honor him with the Regents Award; and the presentation of the Regents Award to the Minnesota Department of the American Legion and its auxiliary coincided with the American Legion national convention held in Minneapolis in August, 1959.

The Veterans of Foreign Wars and the Ladies Auxiliary, Department of Minnesota, received the Regents Award at a luncheon following dedication of the V.F.W. Cancer Research Center; two dedication concerts on the Carillon Americana marked the presentation of the Regents Award to Mr. H. Rowatt Brown; and the Variety Club of the Northwest received the Award at a dinner on the campus, which was followed by a tour of the Variety Club Heart Hospital.

To insure continuing relations with University benefactors, the Department took every opportunity during the biennium to invite benefactors back to the campus to see how their contributions were being utilized. Thus, ground breaking, cornerstone laying, and dedication ceremonies were planned for the V.F.W. Cancer Research Center, and V.F.W. representatives were invited to the campus on each of these occasions. When all equipment was installed and all the laboratories were in operation, V.F.W. statewide Cancer Committee members were invited to the campus for a complete guided tour of the Center. Similar visits were arranged for other groups.

Information and News Program—Information about the University is disseminated daily by the University News Service. News releases covering current happenings at the University are sent to newspapers, radio and television stations, and wire services. In addition, the News Service arranges press conferences and personal interviews for members of the press; provides articles, photographs, and information for specialized publications and agencies such as the United States Information Agency; assists authors in the preparation of their books and helps promote the sale of books written by University faculty members; and serves as a consultant to various University departments in preparing special publications. 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 clippings relating to the University.

The Minnesotan, published 16 times during the biennium, continued to be the primary source of internal communication for staff members. Following adjournment of the 1959 legislature, a special issue of *The Minnesotan*, summarizing the legislative action and its effect on the University, was mailed to staff members.

Since staff interest was high in the approaching appointment of a new University president, a special effort was made to keep staff members informed on the procedures being followed. Following the announcement of President O. Meredith Wilson's appointment as president, the text of President Wilson's first Minnesota press conference, a biographical sketch, and commentaries by former colleagues were published in the March, 1960, issue of *The Minnesotan*. Some of the same information was included in the Winter, 1960, issue of *Reports*, the publication sent to parents of University students.

Copies of either the *Reports* or *The Minnesotan* featuring President Wilson were sent to state legislators, editors, managers of radio and television stations, all high state officials, school, college, and city libraries throughout the state, presidents of colleges in Minnesota, and other interested groups and individuals. This issue of *The Minnesotan* was submitted to the American

College Public Relations Association National Honors Competition and won an Eminent Achievement Citation in the publications category.

In the fall of 1959 the decision was made to publish *The Minnesotan* on newsprint to reduce printing and engraving costs. Also as an economy measure, it was decided to eliminate color from the *Reports* publication and to reduce the number of issues annually from four to three.

A *Statement of Needs* for the 1959-61 biennium was prepared by the Department and mailed to parents of University students, alumni, staff members, and legislators. The Department also published a "Welcome to the University of Minnesota" brochure for distribution to Minneapolis Campus visitors.

The Department continued to publish a monthly Calendar of Events which is sent to the University departments, business firms, organizations, and individuals, and to prepare the Official Daily Bulletin for inclusion in *The Minnesota Daily*.

Tours and Other Informational Programs—Over 60 individually planned tours of the Minneapolis and St. Paul Campuses were arranged by the Department during the biennium for as few as 1 to as many as 85 individuals. University students served as tour guides.

In addition, the Department served as host for the 1959 visit of the Dome Club, an organization of wives of Minnesota legislators, and arranged for 2 groups of Japanese physics teachers, studying in the United States under the sponsorship of the U. S. Office of Education, to stay at the University for 1 week and to meet for talks with University faculty members.

Functions and Special Events—The Department makes arrangements for opening convocations, Cap and Gown Day convocations, commencements, University receptions for graduating classes, and the 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.

The Department co-operates with the Junior Chamber 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 and which brings University staff members into the communities to speak before civic, professional, and alumni groups. Also as part of the Week's celebration, business establishments in metropolitan areas display exhibits prepared by University departments. The Department of University Relations handles arrangements for the exhibits and for speakers for the professional and civic groups.

The Department also is the sponsor of the annual Legislators', Editors', and Broadcasters' Day which is held on the day of the first home football game and which features exhibits from over 30 University departments and units, a barbecue luncheon, and attendance at the football game.

During the biennium, the Department arranged dinners honoring retiring administrators Vice President William T. Middlebrook, President James Lewis Morrill, and Dean Theodore C. Blegen.

In June, 1960, the Department initiated a commencement buffet supper in Coffman Union for the convenience of those graduates and their parents who were on campus for the evening ceremony. Some 300 tickets were purchased, and it is planned to continue the supper as a traditional part of the June commencement activities.

The Department was also in charge of the launching of the Land-Grant Centennial celebration and will continue to administer the special events connected with this celebration.

Policy—On a voluntary basis, 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 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 Broadcasting, the University Theater, the Minnesota Alumni Association, the Greater University Fund, the World Affairs Center, and the Department of Student Unions.—WILLIAM L. NUNN, *director*

—MALCOLM M. WILEY, *vice president*

Divisions of Business Administration

PLANT SERVICES DEPARTMENT

Land

During the biennium, additions were made to the Minneapolis Campus as follows:

In Block 18, St. Anthony City Addition, bounded by Washington, Walnut, Beacon and Harvard, three parcels	11,864 Sq. Ft.
In Blocks 44 and 45, St. Anthony City Addition, bounded by Church St. (Vacated), Essex, Harvard and the East River Road, two parcels and part of vacated Union Street	27,989 Sq. Ft.
In Block 45, St. Anthony City Addition, the South 102 ft. of Lots 1 and 2, one parcel	13,446 Sq. Ft.
In Block 11, University Addition, on the north side of 6th Street S.E., between 15th and 16th Avenues S.E., three parcels	20,570 Sq. Ft.
Tracts A and D of Registered Land Survey No. 841, north of 5th Street, between 18th and 19th Avenues S.E., Minneapolis	66,349 Sq. Ft.

In the Town of Minneapolis Addition, for the West River Campus development, the following acquisitions:

In Block 166, between Washington and 2½ Street and between 20th and 21st Avenues S., nine parcels	88,106 Sq. Ft.
In Block 167, between Washington and 2½ Street and between 19th and 20th Avenues S., fifteen parcels	101,121 Sq. Ft.
All of Block 170 between 2½ and 3rd Streets S. and between 19th and 20th Avenues S., 23 parcels	108,900 Sq. Ft.
All of Block 171, between 2½ and 3rd Streets S. and between 20th and 21st Avenues S., 23 parcels	108,900 Sq. Ft.
In Block 172, between 2½ and 3rd Streets S. and between 21st and 22nd Avenues S., 13 parcels	43,037 Sq. Ft.
In Block 172 and 165, east of 21st Avenue between Washington Avenue and 3rd Street, one transaction	30,648 Sq. Ft.
In Block 175, between 3rd and 4th Streets S. and between 21st and 22nd Avenues S., 18 parcels	76,332 Sq. Ft.
In Block 177, between 3rd and 4th Streets S. and between 19th and 20th Avenues S., nine parcels	54,450 Sq. Ft.
In Block 182, between 4th and 5th Streets S. and between 21st and 22nd Avenues S., 14 parcels	56,544 Sq. Ft.
Also in the West Campus Area, Auditor's Subdivision No. 64 in Block 5 and Auditor's Subdivision No. 68 in Block 6 of Hancock and Rice Addition	82,289 Sq. Ft.

Total Minneapolis Campus Acquisitions	890,545 Sq. Ft. or 20.44 Acres
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Additions were made to the St. Paul Campus as follows:

The east 165 ft. of the north 264 ft. of the NE¼, Section 20, T29N, R23W, Ramsey County less highway right-of-way of 50 ft. on Larpenteur Avenue and 43 ft. on Cleveland Avenue	0.6 Acre
The remaining parts of the E½ of the W½ and the W½ of the E½ of the NE¼ of the NE¼ of Section 20, T29N, R23W, 4th P.M., except the east 250.9 ft. of the west 270.9 ft. of the north 200 ft. thereof, and except Larpenteur Avenue highway right-of-way	9.23 Acres

Deductions were made from the St. Paul Campus as follows:

The east 415 ft. of the SE¼ of the NE¼ of the NE¼, Section 21, T29N, R23W, 4th P.M., except the south 33 ft. thereof and except the Snelling Avenue highway right-of-way, sold to the Minnesota State Agricultural Society	4.82 Acres
The north 30 ft. of Lot 1 and the north 30 ft. of Lots 7 through 21, Auditor's Subdivision No. 63, Ramsey County, to dedicate the south half of Hoyt Avenue to the Public	0.886 Acre

Land and buildings were acquired in the City of Saint Paul for use as a residence for the President, as follows:

Lots 1, 2, 3, 4, 17, 18, 19, 20, the northerly 40 ft. of Lot 5, and the northerly 40 ft. of Lot 16, Block 60, Desnoyer Park Addition to St. Paul, at 176 North Mississippi River Boulevard, St. Paul, Minnesota 1.71 Acres

Land was purchased at Maple Plain in Hennepin County for use as a Veterinary Clinic, as follows:

Lots 12, 13, 14 and most of Lot 11, Block 4, West Maple Plain, Hennepin County 0.72 Acre

Land was purchased at Lamberton for establishing the Southwest Agricultural Experiment Station, as follows:

The SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ and the SE $\frac{1}{4}$, Section 17, and the W $\frac{1}{2}$ of the W $\frac{1}{2}$ of the SW $\frac{1}{4}$, Section 16, T109N, R37W, 5th P.M., Redwood County, Minnesota 240 Acres

Additional land was purchased for the Cedar Creek Natural History Area as follows:

The NE $\frac{1}{4}$ of Section 21, T34N, R23W, Isanti County 160 Acres

Land was purchased at the University Airport as follows:

The SE $\frac{1}{4}$ of the NE $\frac{1}{4}$ and the N $\frac{1}{2}$ of the N $\frac{1}{2}$ of the SE $\frac{1}{4}$ of Section 4, T30N, R23W, Ramsey County 80 Acres

Buildings and Tunnels

Minneapolis Campus—Contracts were awarded for buildings as follows:

Construction of an addition to the Food Stores Building has been completed. The creamery operation will be housed in the 41,357 square feet of usable space.

Total cost of this work \$435,000
 Source of funds University Services Income

Diehl Hall, a Medical, Dental and Biological Library and animal research building, is under construction west of the Masonic Memorial Hospital. It is constructed of reinforced concrete, masonry, stone and brick with four levels, two above ground for the library and two below for animal quarters and laboratories. This structure contains 129,457 usable square feet.

Total cost of this structure \$832,000
 Source of funds State Appropriation

Laboratories for cancer research were provided in the V.F.W. Clinical Cancer Research Institute. Constructed to the north of and attached to the end of the Masonic Hospital, it is of similar construction. There are 13,241 square feet of usable space on the three levels.

Total cost of this structure \$554,793
 Source of funds U. S. Public Health Service Grant—
 Gifts from Veterans of Foreign Wars

An addition connecting Owre and Jackson Halls with underground animal quarters extending under the medical court is under construction. This structure is of reinforced concrete and masonry with brick- and stone-faced corners to match Owre and Jackson Halls. The College of Medical Sciences and the School of Dentistry will occupy the 37,000 square feet of usable space on the six levels.

Total cost of this structure \$720,000
 Source of funds State Appropriation

A building for the School of Architecture was constructed to the north of Mechanical Engineering on Church Street and connected to it by a link of offices. It is a brick-veneered building of reinforced structural concrete with a set of hyperbolic roofs over a center court. Usable space added by this

structure is 82,000 square feet on three levels for classrooms, offices, library and drafting rooms.

Total cost of this structure	\$1,908,000
Source of funds	State Appropriation

The upper three floors of Mines-Metallurgy Building were left in the rough stage under the original contract. Interior partitions, lighting and floors were finished, completing the area for occupancy.

Total cost of this structure	\$200,000
Source of funds	State Appropriation

St. Paul Campus—Contracts were awarded for buildings as follows:

The Diagnostic Laboratory Building was constructed east of the Veterinary Clinic for the College of Veterinary Medicine. Constructed of reinforced concrete and masonry with brick facing it contains 15,757 usable square feet of offices, laboratories and necropsy rooms on two levels. Also included are two Veterinary Isolation Buildings to house animals suffering from communicable diseases, constructed east of Veterinary Diagnostic Building. Twenty-two isolation units are contained in the two single-level buildings which are constructed of reinforced concrete and brick. Each building contains 7,930 square feet of usable space and facilities for decontamination and sterilizing.

Total cost of these structures	\$931,975
Source of funds	State Appropriation \$600,000, U. S. Public Health Service Grant \$331,975

North of the Crop Improvement Building, a Plant Science Field Building was constructed. Built of structural steel it added 5,300 usable square feet.

Total cost of this structure	\$100,000
Source of funds	State Appropriation

Phase II of the Dairy Products Building has been constructed on the west side of the original building of similar construction. The true level structure contains 36,000 usable square feet of offices, laboratories and classrooms.

Total cost of this structure	\$1,000,000
Source of funds	State Appropriation

A Forest Products Building providing laboratory and office space has been constructed north of Green Hall. The three-level building was built of reinforced concrete and masonry with brick facing. It has 9,400 square feet of usable space.

Total cost of this structure	\$350,000
Source of funds	State Appropriation

A concrete and structural aluminum greenhouse was constructed north of Machinery Shed for Horticulture Department. It has separate climate controls for each bay.

Total cost of this structure	\$100,000
Source of funds	State Appropriation

Rehabilitation

Minneapolis Campus—Contracts were awarded or work performed by the University as follows:

Appleby Hall, the Old School of Mines Building, is being rehabilitated and remodeled to provide space for the School of Pharmacy. Old heating, plumbing, wiring, lighting, power, toilets, floors and ventilation have been replaced and laboratories established.

Total cost of this work	\$208,000
Source of funds	State Appropriation

Rehabilitation Phase II has been completed and work on Phase III Millard Hall is 90 per cent done. Remodeling of the undergraduate physiology teaching

labs has been completed. Work is completed on the area for the School of Dentistry. Progress on rehabilitation of the utilities, floors, plaster, toilets, and outside brick and stonework is continuing.

Total cost of this work \$533,000
 Source of funds State Appropriation

Remodeling and general rehabilitation of Phase III on the Chemistry Building has been started. Work will be done in laboratories 290, 415, 415A, 25, 245, 15, 43 and 410. The replacement of waste lines, electrical feeders, lighting circuits, lighting fixtures, and plumbing is continuing where necessary.

Total cost of this project \$200,000
 Source of funds State Appropriation

Fire damage repairs and remodeling in the Chemistry Building are almost completed. Utility and ventilation improvements are under way to make the building safe and usable. Plastering, painting, and new riders below the damaged floor have been completed.

Total cost of this project \$290,000
 Source of funds State Appropriation

St. Paul Campus—Contracts were awarded or work performed by the University as follows:

Vacated areas in Haecker Hall and Dining Hall Buildings have been remodeled to provide office and lab space for Dairy Husbandry, Agricultural Economics, Rural Sociology, and the Photographic Laboratory.

Total cost of this work \$164,000
 Source of funds State Appropriation

Major Improvements and Alterations

Minneapolis Campus—The north entrance of Pillsbury Hall was replaced with a vestibule and several rooms were remodeled.

A new terrazzo floor was installed in the basement and third floor of Folwell Hall. Folwell also received a new tile roof on the east side.

Electrical primary service including necessary transformer vaults and electric panelboard feeder systems were rehabilitated and replaced in Main Engineering, Norris Gym, Scott Hall, Library, Administration and Botany, to provide adequate electric power.

New lighting was installed in 17 rooms in Electrical Engineering and 13 rooms in Physics.

Ventilation work was done in the Main Engineering Library, Norris Gym, Fraser Hall, Mayo Rooms C292, 295, and Williams Arena.

Scott Hall Auditorium received a new control board for lighting.

A new penthouse elevator was installed in the Library.

Northrop Auditorium received a new roof, Rooms 103, 105 and ticket office were remodeled for Concerts and Lectures. Concrete and granite work is continuing on the plaza.

Repairs were made to the brick, roof and terrace of Coffman Union. Oak paneling was installed in the main corridor.

Rooms 117, 119, 119A, 120 Aeronautical Engineering were converted and remodeled from shop and lab space into offices.

A Zoology basement room was remodeled and reinforced for an electron microscope.

Additional space for Cardio Vascular Laboratory was gained by remodeling 510 Washington and adding onto it.

A new bituminous surfaced street was built behind Architecture connecting Union St. and Pillsbury Drive.

Designed and installed a new parking lot behind the Architecture Building.

The land acquired for the West River Campus was cleared of houses and the two blocks fronting on Washington Avenue made into parking lots.

A new storm sewer outlet was extended to the river from the men's residence area.

Health Service and Diehl Hall had a storm tunnel extended to them from Church Street.

Winchell Cottages for women adjacent to Sanford Hall were wrecked.

St. Paul Campus—Soils, Music, and Cold Storage and Old Dairy Buildings were wrecked. The old heating plant's stack and bunkers were demolished, old boilers removed and the site cleaned.

A new steam line was extended to the Horticulture Greenhouse.

Rehabilitation of Coffey Hall Lobby is under way.

The Dairy Nutrition and Bull Barns received new vapor insulation and ceilings.

Solvent and chemical storage space was constructed in Snyder Hall including ventilation and CO₂ sprinkler system.

New electric panel boards and distribution were installed in Agricultural Engineering.

Rehabilitated the heating system and water lines in old section of Home Economics and Snyder Hall.

The water main was extended from Buford south to Carter for fire protection purposes.

Duluth Campus—Tweed residence was rehabilitated as a residence for the provost. Mercury vapor lighting was extended from Allen to St. Marie. A steel structure electric substation with three large transformers and a new roof on the Laboratory Building were completed.

Cloquet—A residence for camp staff and two student cabins were constructed.

Crookston—Minor construction consisted of a pole barn for beef cattle, hog house on the West Farm, turkey pole barn, and a horticultural field work room. Five staff residences were remodeled and five were wrecked.

Northeast Experiment Station—A herdsman's cottage, hoghouse, and henhouse were constructed. Curbing, sidewalks, and street lighting were installed. Underground wiring is in the process of installation.

Grand Rapids—The Dairy Barn was remodeled to add to its capacity. The Hog Barn was remodeled and an addition constructed.

Itasca—A new teaching lab was constructed. Additions were constructed on the Research Laboratory and the Office and Library. Installed a new well and pump. Gas heat was installed in residences, dormitories, and kitchen.

Lamberton—The residence for the superintendent was remodeled. Constructed an office building. A well and pump were installed. Several old barns and sheds were wrecked.

Maple Plain—An office, laboratory, and garage were constructed for the clinic.

West Central School and Experiment Station at Morris—A new ventilating system was installed in the gymnasium.

Arboretum—An office building, public toilet, and entrance way with sign were constructed. A gravel road system established. A well and pump were installed.

Rosemount Agricultural Experiment Station—A pole type experimental turkey barn, pole type hay shed, pole type loafing barn, office and maternity ward for herdsman, and Agricultural Engineering experimental farm buildings were constructed. Paved the Dairy and Cattle barn yard. Two new wells and pumps were installed.—R. V. LUND, *supervising engineer*

OFFICE OF CIVIL SERVICE PERSONNEL

Employment Division—With the economy of the nation expanding once more, accompanied by relatively full employment and rising wages for most

workers, the Civil Service Employment Bureau has had a full-time job in attempting to satisfy the many and varied personnel needs of the University. In certain areas of employment, schools are not producing graduates in great enough numbers to satisfy the demands for their services—engineers, nurses, clerical workers, and medical and research workers. In some respects the University has lost its relatively good competitive position with respect to wages. It can no longer state that the employee fringe benefits are superior to those offered by other employers. However, through sound promotional policies and the reputation of the University of Minnesota as a good place to work, it is possible to staff the University year after year with competent workers.

Projects During the Past Biennium—In order to help carry out the important task of obtaining assistants for those who do the teaching, research, and service work of the University, this office entered into several projects:

1. The revision of criteria for certification of non-college graduates to research laboratory positions heretofore requiring a college degree. The various combinations of training and experience now acceptable should materially aid the recruiting of laboratory personnel without in any way lowering the quality of service rendered.
2. A study of employee turnover relating to problems of recruitment and retention of graduate medical technologists.
3. The revision of the Civil Service employment application form.
4. An analysis of Employment Office procedures.
5. The completion of a manual on Recruitment Policies and Procedures (Part I) and Classification and Resources (Part II).
6. The testing of hospital aides to establish a norm group and to provide more uniform qualification standards for selection of hospital aides.

Employee Turnover—Employee terminations increased by 7.4 per cent during the past 2 years with 3,097 leaving as compared to 2,883 for the previous 2 years. In actual numbers the 1958-60 biennium reverted to the 1954-56 situation when 3,086 employees were separated from the University Civil Service.

Of the "quits," which totaled 72.7 per cent of all terminations for the biennium, the most frequently given single reason was "Other Employment" while "Low Salary" was cited by only .6 per cent of all "quits." As noted in other reports, "Low Salary" may well have been the real reason employees left for "Other Employment."

During the past 2 years 11.2 per cent of "quits" left because of pregnancy as compared to 11.6 per cent during the preceding 2 years.

To quote directly from the 1956-58 Biennial Report, "Change of Residence" . . . remained an important reason for termination. Our policy of direct recruiting and hiring of spouses of students contributed significantly to this situation." As one or both partners of student marriages receive their degrees, they tend to leave the University area. "Change of Residence" accounted for 11.8 per cent of total "quits" during 1958-60 as compared to 17.4 per cent during 1956-58. It should be noted here that students' wives have, with few exceptions, proven to be highly valuable employees.

"Lay-Offs" accounted for 16.5 per cent of the total number of terminations for the biennium, but a great majority of these were hourly rated union tradesmen.

Of the 231 "discharges for cause" (7.4 per cent of total terminations) 135 were for incompetence. The majority of such discharges took place before the completion of the worker's probationary period.

In comparing the turnover for the past biennium with figures published by the Bureau of Labor Statistics for Manufacturing (this includes all positions in this category—mechanical, labor, office, executive, etc.) it seems that for the period July, 1958 through March, 1960 the annual turnover of the University was less than that for the United States, the State of Minnesota, and the Minneapolis-St. Paul area for selected classes and for total Univer-

sity of Minnesota Civil Service classes. The average monthly turnover in manufacturing for the nation during this period was 3.3 per cent, for the State of Minnesota 4.2 per cent, for the Twin City area 3.8 per cent, and for the University 2.8 per cent. Turnover in several University job classes exceeded the national and local average for the period noted. We had a monthly turnover of 4.1 per cent for clerk, 4.5 per cent for clerk-typist, 5.1 per cent for hospital orderly, 4.8 per cent for hospital aide, and 4.9 per cent for general staff nurse.

An analysis of difficulties encountered in the recruitment of well-qualified applicants for these classes indicates a nation-wide shortage of clerical workers of all levels. Employees who leave hospital aide and orderly jobs are well-qualified but short-term students, or poorly qualified males or females who accept institutional work as a tide-over or last resort, or married women with home problems difficult to co-ordinate with work requirements of rotating shifts. General staff nurses are just not being produced in number equal to the demand for their services. As a result of the relative ease of nurses obtaining employment, many change locations as a part of interest in travel, climatic conditions and some for better pay.

Unemployment Compensation—The 1957 Minnesota State Legislature enacted coverage under the Minnesota Employment Security Law for unemployment compensation effective July 1, 1957, for services performed by individuals for the State of Minnesota or any instrumentality wholly owned by the State of Minnesota. On February 6, 1958, the University Board of Regents passed a resolution directing compliance with the law and providing coverage to Civil Service staff. Academic and student employees were excluded from coverage.

As a result of University employees being eligible for unemployment compensation, establishment of detailed and complete procedures has been necessary to obtain information regarding employee terminations for compliance with the law and to determine eligibility for compensation. Every effort is made to re-employ capable and qualified individuals as soon as notification of "layoff" is received or notification that an individual has filed for compensation.

Once every 6 months a complete listing of all University employees drawing unemployment compensation and the total amounts paid is received from the State Department of Employment Security. Since these reports arrive approximately 4 months following the end of a 6-month period, an exact biennial period report is not possible.

During the 2-year calendar period from January 1, 1958, through December 31, 1959, a total of 457 unemployment compensation claims were received from Civil Service employees (203 claims were also received from student and academic employees, but these were automatically excluded). The majority of these fall into the skilled trades and mechanical service areas. During this period, 313 of the Civil Service employees filing claims actually drew unemployment compensation; 160 claims were protested for disqualification under the interpretations of the laws. Of these, 90 cases were disqualified for an additional week up to the maximum of 7 weeks.

1958 was the first year in which the University became involved in financial responsibility for a part of the base year period of unemployment compensation eligibility. The full financial costs for a full year of eligibility did not occur until 1959, the second year of coverage. An amount of \$29,854.34 was paid in 1958 for unemployment compensation and \$61,499.59 in 1959, for a total of \$91,353.93 paid to University employees during the 2-year period.

Position Vacancies—The Employment Bureau worked on a total of 5,017 vacancies during the biennium. Of this number 4,770 were filled, 85 were canceled and 162 remained unfilled at the end of the period. Most of the vacancies listed as unfilled were received by the Employment Bureau just prior to the end of the reporting period and were not necessarily hard-to-fill vacancies. The total vacancies worked on represent approximately a 3 per cent increase over the preceding biennium. The vacancy work load of the 1956-58 biennium also was a 3 per cent increase over that of the biennium preceding it.

Two groups of classes in particular showed significant increases in numbers of vacancies over the 1956-58 biennium. The medical, dental, hospital group, which accounted for 16 per cent of the total vacancies during the period 1956-58, increased 24.5 per cent. The number of vacancies in the custodial, food service groups, which accounted for 11 per cent of the total vacancies during the period 1956-58, increased by 17 per cent.

The increase in vacancies in the medical, dental, hospital group was partly due to the opening of the Masonic Hospital in 1958-59, while the increase in vacancies in the custodial, food service group is due to the expansion of dormitories, the reorganization of food services on the St. Paul Campus, and the opening of a new hospital wing.

The clerical, administrative, fiscal group of classes accounted for 37 per cent of total vacancies during 1958-60, a decrease from the 45 per cent of the previous biennium.

Half of the unfilled vacancies of this group at the end of the biennium were for first- and second-level typists.

Recruitment and Placement—Successful recruitment and proper placement of well-qualified persons continues to be a difficult function for the Employment Division of the University Civil Service. The limited available labor force with the demands nation wide for labor's services, has created small ratios in the number of applicants available for the vacancies and the number of qualified persons for referral to position vacancies.

For the 4,932 vacancies occurring during the past 2 years there were 11,410 applicants of whom 6,966 were referred to the various departments. This number of referrals represents a ratio of 1.4 per vacancy. A ratio this small indicated limited degree of choice for the employing departments, some of which are trying to fill key positions. Certain vacancies result in a substantial number of referrals, so the referral ratio to many other vacancies is down to 1 whereas the normal, desired average would be 4 applicants referred to a vacancy.

For the past several years the problem areas have remained the same. The clerical, administrative, and fiscal group has been a trouble spot for recruitment and placement for many years. During the past biennium there were 4,428 applicants for the 1,830 vacancies occurring in this group of classes. From this number of applicants 2,807 were referred, resulting in 1,806 placements. During the first year of the biennium, the number of applicants for positions in this group of classes remained fairly well up and steady through the summer. The salary adjustment of July, 1958 placed the University in a more competitive position for the services of office workers. Through the first 2 quarters and into the third quarter of 1958 vacancies were filled within a few days of their occurrence. By the end of the year the pinch had resumed with the number of applicants and placements way down. It was felt at that time that the decrease in end-of-the-year placements was due to a significant decrease in the number of June graduates interested in permanent work, and an apparent increase in the number of young women planning to attend college. The second year of the biennium appears to have been a little more stable with respect to numbers of applicants, referrals and placements. The two most critical kinds of office vacancies are for typists and for secretaries, particularly at the higher levels. Noncompetitive salaries is the primary reason for the difficulty in recruiting for the higher-level secretarial positions.

Key punch and tab equipment operators have also been difficult to recruit because of noncompetitive salaries. These classes are critical. On several occasions it has been necessary to hire applicants with machine training but no experience. Such persons have been placed on trainee programs set up co-operatively between the Training Division and the hiring departments.

The medical, dental, hospital group remains critical, particularly in the nursing services. At the end of the biennium there were 72 vacancies unfilled as compared to the next largest number, 42, in the clerical, administrative, fiscal group.

The scientific group was and remains difficult to recruit. During the biennium there were 525 hires out of a total of 692 referrals from 740 applicants. A number of vacancies remained open several weeks and a few for several

months before being filled, sometimes with marginal candidates. By and large, the scholastic and aptitude qualifications of applicants for scientific positions were high enough but all too often the applicants just did not have majors which could be used in the positions that were vacant. Over the years, including the past biennium, close co-operation between applicants, departments, and the University Employment Bureau has resulted in placements being made in classes lower than desired but in which the applicants could reasonably be expected to function successfully. On the job training and/or further academic training then developed needed skills and knowledge to the point of qualifying the worker for upgrading to the class originally requested by the hiring department. A large proportion of research positions at the level of laboratory technologist or higher are not particularly adaptable to a trainee type of learning program. The adoption of revised criteria for eligibility for employment in scientific classes (May, 1960) should help fill these important positions. Eligibility for employment in the scientific classes has always leaned heavily toward strict academic requirements; the revised criteria permits a much broader variety of combinations of schooling and experience.

In the Hospital Laboratories, the class of student technologist supervisor is critical by virtue of the absolute requirement of a 4-year college degree with a major in medical technology. A new 1-year course for laboratory assistants offered by the Course in Medical Technology, and an on-going program of analyzing clinical laboratory work with possible delegation of certain routines to nongraduates may help to alleviate the shortage of student technologist supervisors.

In the engineering-mechanical group of classes those of junior engineer and engineer were particularly troublesome. During the first year of the biennium, in spite of heavy newspaper advertising, close contact with the Minnesota State Employment Service, and full utilization of other sources of recruitment, there were only 87 applicants and 37 referrals for the 22 positions involved. Still, 19 placements were made, leaving 3 vacancies unfilled at the end of the year. A large percentage of the applicants were either trained in the wrong field, were not trained highly enough, or were otherwise not acceptable for employment. During the second year of the biennium several well-qualified persons were successfully recruited and hired with somewhat less difficulty, but at advanced steps.

The custodial-food service group showed 785 vacancies during the biennium, of which 774 were filled with 11 unfilled at the end of the period. Activity in this area was approximately twice as heavy during the first year of the biennium, largely because of the expansion of dormitories, the reorganization of food services on the St. Paul Campus and the opening of a new hospital wing. The recruitment and placement of persons in the several classes of this group was aided immeasurably by the co-operation of the Minnesota State Employment Service. We interviewed 2,539 and referred 1,131 custodial and food service applicants during the biennium. Of these, 2,539 applicants were screened and referred by the MSES while others were recruited through advertising and contacts through present employees.

An application over a month old is often, for all practical purposes, dead. Thus, it is necessary for us constantly to publicize our vacancies by every means. These include twice-a-week listings of vacancies in the *Minnesota Daily*, posting on an official bulletin board in the Administration Building and in Coffey Hall, posting of selected vacancies on various departmental bulletin boards, bi-monthly listings and personal contacts with some 75 schools and colleges in Minnesota and surrounding states, listings of exceptionally difficult-to-fill vacancies with 35 commercial agencies in the Twin Cities, almost daily placement of job orders with the Minnesota State Employment Service, occasional special notices to students' wives and to present employees, notices and ads in professional journals, and paid want-ads weekly in the *Minneapolis Sunday Tribune* and the *St. Paul Dispatch*. Newspaper advertising is generally the most productive source of applicants. During the past biennium a total of \$10,177.62 was spent, including discount, of which 90 per cent or more was with Twin Cities newspapers. The expenditure of \$10,000 was 11 per cent over that for the preceding biennium. Part of this

increase was due to an increase of 6.5 per cent in classified advertising rates by the *Minneapolis Sunday Tribune* in April of 1959. Of the total, \$2,924.73 was spent in advertising for clerical-secretarial help, \$1,632.78 for scientific, \$937.45 for engineering and mechanical, \$880.23 for supervisory and \$2,173.51 for special services. These categories required the greatest amount of publicity.

During the biennium the policy of actively seeking out qualified employees and promoting them before considering new applicants was continued.

During this period 822 full-time Civil Service employees were promoted, exactly the same number as in the preceding biennium. Also, 295 student employees were promoted. The total of 1,117 promotions shows a 7.3 per cent increase over the 1956-58 period.

We also transferred 360 full-time employees to other positions in their same pay ranges, usually at the request of the employee.

Employment of Aliens and Relatives—As of June 27, 1958 there were 79 aliens employed on a full-time basis by the University. From June 16, 1958 through June 17, 1960 91 new aliens were employed. On June 17, 1960 there were 81 aliens on the payrolls. Of these a considerable number were not permanent resident aliens, but included exchange-visitors and students not enrolled in classes but gaining work experience in their specific fields of training or study.

It should be noted that aliens are considered for employment only after all normal avenues of recruitment have failed to attract qualified U. S. citizens as candidates for each specific vacancy.

Applicant Testing—A total of 19,422 tests were administered to 8,476 applicants. Of these, 5,345 were new applicants, 1,628 were previous applicants who were retested, and 1,503 were students. The total number of tests administered represented an increase of approximately 10 per cent over the preceding biennium.

Physical Examinations—Physical examinations were required of all new regular payroll employees and are administered during the probationary period. A total of 1,642 examinations was given to 372 men and 1,270 women. Of these a limited number of pre-employment physical examinations was administered to insure physical fitness for the position prior to official referral to a vacancy.

Personnel Transactions—Personnel transactions (documents processed effecting employee changes) increased approximately 15 per cent from 38,396 for the 1956-58 biennium to 44,306 for the 1958-60 biennium. The 1958-60 total includes 15,261 Civil Service, 11,799 student and 17,246 academic actions.

On a University-wide basis, including Duluth and all outlying stations, there were a total of 1,986 "Change in Status" documents processed, an increase of about 13.5 per cent over the 1956-58 biennium. This total included 371 reclassifications of positions, 1,117 promotions, 51 demotions, and 447 transfers.

Position Classification Plan—The Position Classification Plan now includes 480 classes of work, covering approximately 10,000 full- and part-time Civil Service positions.

The administration and maintenance of this plan consists mainly in: (1) classification of new positions, (2) reclassification reviews, (3) review of vacant positions, (4) establishment of new classes and abolition of obsolete classes, (5) classification surveys, (6) salary surveys, and (7) revision of class specifications.

The following sections describe the work activity in these six areas during the 1958-60 biennium:

Classification of New Positions—University departments set up 1,033 new positions during this biennium, submitting written descriptions for each job.

Approximately 700 of the new positions were discussed with supervisors to clarify duties and relationship with other jobs. Following careful study, 975 were classified in accordance with the department's request, 35 to lower level, 11 to a higher level, and 12 into a different class at the same pay level as requested.

A follow-up review is made of each new position after it is established and has been filled and operating for a period of 4 to 6 months. A contact is made with the employee at his work site, and if circumstances appear to warrant it a formal review is conducted. Two hundred new positions required job review questionnaires and formal reviews. The remainder either had developed as planned or were temporary positions.

Reclassification Reviews—Employees and their supervisors submitted 338 requests for reclassification of positions during the 1958-60 biennium. All of these requests were given detailed investigation, including discussions with employees and their supervisors and review of related positions.

Of the total of 338 requests, 53 were not approved, 16 were reclassified to a different class than requested, and the remaining 269 were reclassified as requested.

When a department disagrees with the Classification Division's decision on classification of a new position or with reclassification of an existing position, it may appeal to the Civil Service Committee.

On each appeal, the Personnel Office presents a detailed report to the Civil Service Committee on the reasons for the classification decision. During this biennium, one departmental appeal was made which was sustained by the Committee.

When an employee disagrees with the classification decision, he may appeal to the Civil Service Committee or directly to arbitration. Two employees appealed the classification of their positions directly to arbitration during the past biennium. One case was decided in favor of the employee and one was decided in favor of the University.

Review of Vacant Positions—All requisitions to fill vacant Civil Service positions are reviewed by the Classification Division to determine if there has been any significant change in duties before applicants are referred to the department by the Employment Bureau.

The Personnel Office received requisitions to fill 2,592 vacant positions during the last biennium. The description of the work on all such requisitions is studied, checked with existing records, and in about one-fourth of the cases, the work assignments are discussed with the supervisor. These studies resulted in reclassifying 21 positions to a lower level, 8 to a different class at the same level, and 15 to a higher class than requested.

Establishment of New Classes and Abolition of Obsolete Classes—As the character and volume of University work changes, the classes to which this work is assigned must be adjusted accordingly. When new positions become necessary, it may not be possible to fit them into existing classes. New classes for these positions must be established by drafting specifications and having them approved by the Civil Service Committee and the Board of Regents. Also, classes become obsolete as they are no longer needed to carry on University work. Obsolete classes are eliminated by Civil Service Committee and Board of Regents action.

Forty-eight new classes were set up and approved during this last biennium. Twenty-four classes were eliminated during the same period.

Classification Surveys—A classification survey is a review of all of the positions in a class or group of related classes to see if the class concepts, relationships between classes, or relationships between positions within a class have changed. Classification surveys may be conducted in several ways. For example, all positions throughout the University in a given classification may be reviewed simultaneously; all positions in a given series of classes may be reviewed simultaneously; or all positions in a department may be reviewed simultaneously.

During the past biennium considerable use has been made of the technique of reviewing all positions in a department. It is believed that this technique has proved very useful to the Office of Civil Service Personnel as well as to the operating department head. Newly appointed administrators particularly should find such a study useful in familiarizing themselves with their organization.

During the past biennium, 13 departments were surveyed by reviewing all Civil Service positions in a particular administrative unit of each department.

In all, 400 positions were studied in connection with classification surveys. Fifty-six were assigned to a higher classification and 4 to a lower classification.

Revision of Class Specifications—In the regular daily maintenance of a position classification plan, the revision of class specifications means keeping them up-to-date so that they give, at all times, a true indication of the kind and level of work performed.

A new method of distributing class specification manuals has been developed and is in use now. All major administrative divisions are provided with a complete set and smaller units are given class specifications for classes they use most. After the initial distribution, the manuals are being called in annually for revision. A different series of manuals are called in each month to spread the work load over the year.

Program Problems—One basic problem foremost in the thinking for the next biennium is the necessity for continuing to increase survey work. During the past 2 years, the use of the "departmental survey" provided more accurate information about how positions relate to others within the department and at the same time provided the department head with information that he could use when considering changes in organization or assignments.

The steady growth of the University and the increased activity in new types of research cause changes in organization and job content that necessitate continual survey work to insure an adequate classification plan.

Pay Plan—In the administration of the University's Civil Service Pay Plan, there are two primary areas of concern: (1) general changes for the total plan on the basis of cost of living adjustments and (2) individual changes for certain classes on the basis of internal relationships, State Civil Service changes, and comparison with community rates.

General Changes—The Consumer Price Index, published by the U. S. Department of Labor, exceeded 124 on January 1, 1959. This called for a one-step (4 per cent) increase for all State Civil Service pay ranges to be effective July 1, 1959. The University also increased each pay range one step (4 per cent) on July 1, 1959. The merit increases due July 1, 1959 were postponed until January 1, 1960 by legislative action. This resulted in two dates during the year when merit increases may be given, January 1 and June 16. The intention is to continue this policy in the foreseeable future.

Individual Changes—Individual changes in pay for University Civil Service classes may result from individual changes by the State for comparable classes of work, or from a study by the Personnel Office of internal job relationships, or from a survey of community rates for comparable classes of work.

In the fall of 1959, a relatively large group of "Middle Management" positions were reviewed and 62 were reassigned to higher pay ranges based on over-all growth in the size and scope of the services for which these single-position classes were responsible.

During the past biennium a total of 111 classes were reallocated to higher pay ranges based on changes in the duties and responsibilities of individual positions or on moves made by State Civil Service for comparable classes.

Salary Surveys—The salary survey begun in April, 1958, was completed in June, 1958. The University co-operated with State Civil Service and other local municipal agencies in conducting this survey. In general, the 1958 survey indicated that University salaries were competitive. However, certain specialized areas proved to be too low for good recruiting and retention of employees. A small number of classes were reassigned to higher pay ranges following similar moves by State Civil Service, effective July 1, 1959.

A comprehensive salary survey completed in June, 1960 covered 51 key classes. The University again co-operated with State Civil Service and other local municipal agencies in collecting and analyzing the data. Returns were received from 819 firms employing 300,000 workers. No direct contact was

made with some 150 hospitals in the State because it was found to be more economical and equally as accurate to utilize data collected by the Minnesota Hospital Association. These data were not yet available at the end of the biennium. Results of this survey will be used to recommend possible pay range changes to be effective July 1, 1961.

A large number of small, informal salary surveys was conducted during the past biennium to obtain data concerning current pay rates for residence hall directors, airframe and engine inspectors, glassblowers, and other specialized occupations.

Pay Plan Problems—The major problem in the University Civil Service pay plan is the inability to adjust quickly to trends in the job market. This is due to the biennial budget system. If some means could be found to provide for annual or even 6-month adjustments in the pay ranges according to current salary data, many other advances could be made. For example, a program of pay increases based on real merit could then be considered.

Employee Training—The staff of the Training Division devoted its efforts during the 1958-60 biennium to improving existing training programs, to developing several new training programs, and to furnishing management analysis and other services to University departments.

Orientation—The 1½-hour orientation or “get acquainted” session for new University employees was held once every 2 weeks during the biennium. This session is designed to help new employees see how their jobs fit into the work of the University as a whole and to help them feel at home on the campuses. During the biennium, 1,554 new employees were sent a packet of orientation materials welcoming them to the campus and inviting them to this “get acquainted” session, and 332 attended the session. This program will be revised during the coming biennium; approximately only one-fourth of the new employees invited find it possible to come to a central orientation session. A more decentralized program will probably be devised.

Clerical Skills—Clerical skills training programs continued to be an important part of the work of the Training Division during the biennium. Three courses, taught in a central location by staff of the Training Division, were offered on a continuous basis: the University Basic Office Practices Course for beginning typists and stenographers; the University Business Procedures Course for secretaries and key clerical employees; and the English Refresher Course.

The Basic Office Practices Course is designed to polish the office practice skills of inexperienced typists and stenographers and to acquaint these girls with efficient ways of performing clerical work at the University. The twelve 2-hour sessions of the course cover such topics as telephone and receptionist techniques, letter layout, duplicating methods, filing methods, and work organization, and provide typing speed and accuracy drill. During the last 2 years, 122 girls attended the course in 18 groups. In addition, 33 individual sessions of the course were conducted for special groups of girls from individual University departments at the request of supervisors or department heads. In addition, 81 requests from supervisors for materials from the course were filled, the supervisors presumably wanting to use the materials in their own training efforts with employees. Demand for this course, its special sessions, and its materials, is high and the results of the work are gratifying. This work should be continued in its present form.

The University Business Procedures Course, also consisting of twelve 2-hour sessions, covers bookkeeping practices, personnel policies and procedures, procurement methods, and internal services of the University. The course was conducted 9 times during the biennium, with 151 key clerical, secretarial, and supervisory employees enrolled. A number of private sessions was also held with employees who requested orientation in University business procedures. The texts for this course are the University Manuals of Business Procedure, designed 10 years ago and brought up-to-date yearly by the Training Division. As of the end of this biennium, slightly more than 500 sets of these manuals are in use in academic, research, and administrative

offices in all University locations. University departments more and more look to the Training Division for assistance both in understanding University policies and procedures and in bringing about improvements in them. The Training Division has become somewhat of a clearing house of ideas for improvement and simplification of University business procedures, and for development of new procedures.

At the close of the last biennium, as a third phase of its central clerical program, the Training Division was testing a new English Refresher Course for secretarial employees by conducting it with a small pilot group. During the present biennium the course has been conducted 6 times: 4 times on the Minneapolis Campus and twice on the St. Paul Campus. It consists of sixteen 2-hour sessions covering grammar, spelling, and punctuation. A total of 77 secretaries and office supervisors have taken the course during the 2 years. Evaluation of results and reaction to the course shows that it is effective and well received. It should continue to be offered in substantially its present form. The instructor is now engaged in making improvements in training aids and materials.

Supervisor Training—Supervisory training, another important aspect of the work of the Training Division, received an increasing emphasis during the biennium. Supervisory training programs started in the previous biennium in several departments of University Hospitals were continued and expanded. Follow-up work was also done on programs previously conducted for Physical Plant custodial group leaders and for University Bookstores managers. Assistance was given in the development and conduct of supervisory training sessions for clerical supervisors in the Student Counseling Bureau. And during the last year of the biennium a group of 20 Physical Plant shops foremen and University Services managers completed a course of twelve 2-hour sessions on supervisory topics. At the close of the biennium the Training Division had begun to offer two 10-session courses on supervision ("Responsibilities of a University Supervisor" and "Understanding Yourself and Others") to supervisors in all departments on the Minneapolis and St. Paul campuses. Enrollment will be by written application through department heads and groups will be formed in accordance with demand and availability of teaching time.

Interest in supervisory training has been stimulated during the biennium by the Supervisor's Information Service, a circulating library managed by the Training Division. This service now circulates 24 periodicals and professional journals of management and supervision on a selective basis to 152 administrative, middle management, and supervisory employees in a variety of University departments on the Minneapolis and St. Paul campuses. These periodicals seem to stimulate the supervisors to interest in self-improvement and to ideas for improvement of their departments. The Supervisor's Information Service has also been receiving an increasing number of requests for loan of books on supervision, and gradually acquired a few volumes for this purpose.

Departmental Skills Programs—A major function of the Training Division is to encourage supervisors and administrators in all University departments to carry on effective on-the-job training and development of employees in skills peculiar to the department. To carry out this function, the Training Division makes a wide variety of services available: analysis of work for training purposes, editorial assistance in writing of work methods manuals and employee handbooks, art work for illustration of training manuals and aids, special sessions for supervisors on how to conduct on-the-job training, and assistance in evaluation of training results.

During the biennium, the Training Division continued servicing the departmental skills programs it had helped departments build in previous years. In addition, the biennium provided time to bring an important new departmental skills training program into full operation in the Hospitals Nutrition Service.

At the same time, a substantial amount of developmental work was accomplished during the second year of the biennium on a skills training program soon to be placed in operation for janitors and maids in University Hospitals Housekeeping Department.

During the second year of the biennium, the driver training program was revised in co-operation with the transportation manager in University Services. This program, which has been dormant for several years, will be used again during the coming biennium with an entirely new approach.

Since the development and recording of standard work methods is usually the first step in the building of a skills training program, the Training Division places emphasis on promoting the writing of work methods manuals. During the biennium, 32 work methods manuals were written for 17 departments.

Management Analysis Services—Some of the work methods manuals came to be written as the by-products of another service of the Training Division. Administrators and supervisors have increasingly looked for assistance to the Training Division in making studies of management problems involving organization, policies, procedures, work methods, flow of work, space utilization, and distribution of work. During the past few years the division has begun to make such management surveys, on request, as a routine part of its work. In making such surveys the Training Division uses the accepted techniques of management analysis commonly employed by consulting firms, plus several new techniques developed because of the peculiar needs of an educational institution. The Training Division places more emphasis on working out recommendations and improvements in co-operation with departmental personnel than on giving advice, and adapts its approach to the needs of each department. Usually several kinds of materials such as organization charts, work flow diagrams, work distribution charts, work-place layout drawings, and work methods manuals are developed in the process of such studies. These aids help department heads and supervisors evaluate programs and operating procedures, and provide material for training of new employees. Thus the management consulting work is an avenue leading to the improvement of employee training from a long-run point of view, as well as a service that helps departments find immediate answers to perplexing organizational problems.

Trainee Programs—Incentive training programs, or "trainee" programs, were invented during the previous biennium primarily to make it possible to hire and intensively train underqualified applicants in kinds of work where qualified applicants were scarce. The number of these programs has been expanded steadily during the present biennium, so that at the close of the biennium approximately 20 trainee programs existed for entire groups of employees in particular organizational units of the University, and several dozen additional individuals came under the program in scattered units. Substantial use is being made of the program for training of key punch operators, tabulating equipment operators, x-ray and operating room technicians, practical nurses, secretaries, and senior clerk-typists.

Trainee programs permit the hiring of underqualified applicants at salary steps below the minimum for the class of work. Carefully planned phases of training are set up and as soon as the employee completes each phase he is given a salary increase. The program makes him a fully qualified employee by the time he reaches the minimum salary step for his class of work. Training is systematic but progress is at the pace of each individual trainee, although a limit is placed on the maximum time allowable for the completion of each phase of training.

Before a supervisor is allowed to use an incentive training program, he is required to fully outline the training to be accomplished in each phase of the program he proposes. Thus the incentive training programs have had other benefits besides broadening the hiring base. They have provided many opportunities for Training Division staff to help supervisors learn how to plan and carry out training in a systematic manner.

Employee Self-Development Programs—The Regents' Scholarship Program was improved during the biennium when the Regents increased the number of day school scholarships from 60 to 100 per year, and in addition made available 30 evening school scholarships per year. Interest in the scholarships has been great enough so that in most academic quarters a larger

number of worthwhile applications are received than there are scholarships available.

The program under which employees may register in University courses by paying their own fees also continued to be popular during the past biennium, with 154 employees requesting permission to attend class and make up the time.

Supplementary Services—The Training Division staff is, in addition to its work in the activities already outlined, constantly being consulted by employees and administrators for a variety of other purposes.

Employees seek counseling on self-development, vocational guidance, and educational pursuits. The Training Division watches probationary employee morale questionnaires for comments revealing employee interest in self-improvement, and writes to such employees to stimulate action and help the employee make use of available educational resources.

Administrators use the Training Division staff in a variety of ways. Some seek personal counseling. Others seek assistance writing memorandums, reports, and correspondence, and others ask for more extensive editorial help. During the biennium the Training Division has written, edited, or given design advice on everything from survey questionnaires to a housing facilities brochure to a storehouse catalogue to a vendor's manual. The Training Division considers this work an opportunity to help administrators improve their communication techniques.

Civil Service Committee—The following staff members served on the Civil Service Committee during this biennium: Ray Archer, director of Insurance and Retirement; Clarence Cole, professor and head, Dairy Husbandry; Henry Hartig, professor, Electrical Engineering; Richard Jordan, professor and head, Mechanical Engineering; James W. Stephan, professor and associate director of course in Hospital Administration; and John Turnbull, professor, School of Business Administration.

Mr. Stephan served as chairman during both 1958-59 and 1959-60. The director of Civil Service Personnel serves as executive secretary.

The committee, which meets on call, held 25 meetings during this period. The committee's major functions involve considering appeals from department heads, acting on all recommendations for new classes, reassignment of classes to new pay ranges and selecting recipients for Regents' Scholarships.

The Office of Civil Service Personnel is deeply indebted to these committee members for the conscientious and helpful way in which they guide personnel policy at the University.

Student Employment Bureau—The following totals summarize the activities of the Student Employment Bureau for the 1958-60 biennium. For comparison, corresponding figures are shown for the preceding 2 years (1956-58).

	Interviews	Applicants	Vacancies	Placements	Earnings
1956-58	49,055	17,011	15,688	13,346	\$11,187,799
1958-60	55,754	17,592	17,205	14,614	14,970,890

Continued expansion of the Student Employment Bureau's volume of business during this biennial period is at once apparent. In performing its function of aiding students who need jobs to finance their schooling, the Bureau experienced its biggest and most successful years. Even though the biennium began in the latter part of the 1957-58 recession, when jobs were extremely scarce, and ended during the somewhat disturbed employment conditions prevailing in the spring and summer of 1960, the economic pendulum in the meantime had swung far enough in the other direction to have produced very good over-all results.

Interviews, or individual contacts with students regarding employment matters, reached the all-time high of 55,754, an increase of 6,699 over the corresponding figure for the preceding biennium. This resulted in a daily average interview load of 111, compared with 98 in 1956-58. Interviews or

student contacts exceeded total enrollment on the Twin City campuses by 7,377. Enrollment during this period increased 3.2 per cent while the number of interviews went up 13.7 per cent.

The biennium saw a record number of individual students applying for work. The 17,592 applicant total was 581 greater than in 1956-58, a gain of 3.4 per cent. This number represents 36.4 per cent of the Minneapolis-St. Paul enrollment, a proportion which remains relatively constant from year to year and indicates that slightly more than 1 out of every 3 students makes use of the Student Employment Bureau. Of the 17,592 students who sought work through the Bureau, 10,633 or 60.4 per cent of them were placed in jobs. This is 896 more than in the preceding 2-year period, an increase of 9.2 per cent.

A total of 17,205 jobs became available during the biennium. This was an increase of 9.7 per cent, or 1,517 jobs. The spread between the number of applicants and the number of vacancies was much smaller than in 1956-58. In fact, if jobs could have been distributed one to each student, only 387 students (out of 17,592) would have gone without work.

Job placements totaled 14,614. This is the greatest number of jobs ever filled through the Bureau in a 2-year period, and represents an increase of 1,268 jobs or 9.5 per cent over 1956-58. In view of the objective of a job for every applicant, this is a distinct gain when compared with the increase of only 3.4 per cent in the number of students applying for work.

Student earnings continue to climb year after year. This is partly explained, of course, by the trend of rising prices and wages, but also to a large extent by the growing number of students who work. Whereas \$1.00 per hour was the accepted wage rate a very few years ago, \$1.25 to \$1.50 is common today. Earnings for this biennium went to a new peak of \$14,970,890. This was approximately 3¼ million dollars, or 33.8 per cent, more than was earned in the preceding 2 years. The total includes the University's actual student payroll as well as an estimated amount earned by students working in off-campus positions secured through the Bureau during the biennium. Since the figure includes the earnings of graduate students in academic classifications (mainly teaching and research assistants), it should not be related to the other data given in this report (Interviews, Applicants, Vacancies, Placements, etc.). These graduate assistants are not included in these latter categories.

To the earnings figure of nearly \$15 million should be added an amount in excess of a half million dollars earned by students employed in residence halls, where board and room credit is received instead of paychecks. In addition, an unknown and undoubtedly large amount was earned by those who continued working on jobs secured through the Bureau sometime prior to this biennium and by an undetermined number who found jobs on their own.

In the Work-Scholarship program administered by this Bureau, 157 beginning freshmen were placed in part-time employment, compared with 103 in the preceding biennium. Many of these high-ability high school graduates may not have gone on to school were it not for this encouragement given them.—H. C. ANDERSON, *director*

UNIVERSITY SERVICES

Thirty-nine separate University Services departments and 5 General University departments, requiring the services of approximately 500 full-time and 1,000 student employees, were administered through the biennium under the direction of the office of University Services. The review of activities which follows gives only a brief summary of the highlights of the years which are reported on more comprehensively in the "University Services Annual Report" for the 2 years of the biennium.

University-Operated Student Housing—The assistance by special appropriations of the Minnesota state legislature, and by favorable long-term financing arrangements with the federal government, has made it possible for the University to get a start in necessary expansion of housing to meet increasing student enrollments, on a basis whereby rental rates charged to

amortize University investments provide equity funds for continuing the building program. Accommodations for single students were increased by the completion for fall quarter, 1958 of Territorial Hall for 550 men and of wings on Comstock Hall containing 132 additional double spaces for women on the Minneapolis Campus and of Bailey Hall on the St. Paul Campus with one wing for 155 men and one wing for 152 women, and for fall quarter, 1959 of Frontier Hall on the Minneapolis Campus for 564 men. Accommodations for married students were increased by 120 units—56 two-bedroom apartments and 64 one-bedroom apartments—with the last ones finished for fall quarter, 1959.

New construction has replaced very little of the old substandard housing. Deterioration of the old houses constituting Winchell Cottages made it necessary to discontinue operation of the 136 accommodations for women at the close of spring quarter, 1959. Women's halls on the Minneapolis Campus were filled to capacity at the beginning of the 1959-60 school year, but the usual number of vacancies developed through the year. With the increased capacity in men's residence halls, for the first time since before World War II, these halls were not filled. Economic recession conditions particularly in the northern part of Minnesota, it is suspected, affected students from outside the metropolitan area, so that expected increases in occupancy of men's halls did not materialize. New accommodations for girls in Bailey Hall prompted the decision to convert Brewster Hall, which had housed girls for 60 years, into a men's dormitory.

Demand for married student housing has continued to exceed available units. The temporary housing at the Como Avenue and Grove East project was built in 1946 to take care of an emergency housing shortage. That emergency no longer exists, and present students desire to live in temporary housing primarily for economic reasons. This housing has now been continued several years beyond its intended life. Consequently, on February 5, 1960, the Board of Regents approved the phasing out of the Grove East temporary units over a 4-year period beginning in fall, 1960. The evacuated space in Grove East will revert to its original intended use for the expansion of University Grove. When Como Village is eventually evacuated, this area will provide additional space for service buildings as needed by the University. The 94 prefabricated units on hand July 1, 1958 were sold as they deteriorated and were determined unfit for occupancy. The remaining 5 prefabricated buildings and 4 utility buildings were placed on sale at the close of spring quarter, 1960.

The very detailed study prepared by the University of Minnesota for the Interim State Building Commission covering the 15-year educational needs, including housing and feeding, is revised from time to time as emphasis of needs changes between men and women, single and married students, and the separate campuses. With the continuing waiting lists for married student units, the Board of Regents approved application for loan assistance under Title IV of the Housing Act to finance the balance of funds needed in excess of equity monies to complete Phase III of Commonwealth Terrace. Final Housing and Home Finance approval is desired so that construction might be started in the spring of 1961 on 102 two-bedroom and 40 one-bedroom units as the first step in replacing the 236 units in Grove East. Consideration was given to a higher ratio of two-bedroom units because of the greater demand for these apartments.

Thatcher Hall, available only to married graduate students, has experienced less pressure in waiting lists as a result of the construction of Commonwealth Terrace.

Open houses and teas on May 8, 1959 commemorated the dedication of the new residence halls. Sanford Hall, the oldest residence for women on the Minneapolis Campus, has been decorated in a niche on the enclosed porch with a small copy of the statue of Maria Sanford that was placed in the Senate Hall of Fame in Washington, D. C.

In conjunction with the construction of Frontier Hall, the Pioneer Hall kitchen, which had been inoperative since a major refrigeration breakdown in 1951, was reactivated and connected by tunnel with Frontier. The project was not completed as scheduled for the 1958-59 school year, so the residents

of Centennial, Pioneer, and Territorial all were served at Centennial. The Sanford Hall roof was replaced in 1958-59 with asbestos shingles and new copper drains. A new high voltage electric transmission line was completed in April, 1960 from the St. Paul Campus substation to Grove East and Como Village for the purpose of substantially reducing electric bills. The office for married student housing was moved from Como Village to the new building at 1295 Gibbs Avenue, St. Paul, on November 1, 1959.

Temporary vacancies in residence halls were partially offset by augmentation of income throughout the year from conference and convention groups. Such groups are difficult to administer while conducting a program for students, but are good for the budget. In this way, it was possible to fill a need for housing guests of the University who cannot be accommodated at the Center for Continuation Study.

The residence hall counseling program continued to place greater emphasis on the educational aspect of residence hall living, in keeping with the trend in colleges through the nation. Counselors serve as advisers to clubs, social activities, cultural programs, social service projects, intramural sports, judiciary boards, and student government. Improvement of scholarship was strived for through attention to a high level physical environment and suitable quiet, along with assistance of counselors and older students in developing the necessary study habits. Centennial Hall, for example, offered all men's halls a list of graduate students who would tutor underclassmen. House officers supplemented the work of counselors in attempting to maintain good study environment. Initial contact letters were sent to parents of students who were on probation, had failed, or had significantly underachieved, and these letters were followed with progress reports. Orientation programs in the halls were designed to make new students feel they are an integral part of the residence hall, and to create in them a desire to become enthusiastic contributing members of the hall. Food and house committees worked constructively toward elimination of food waste by residents.

Two years' experience with a co-educational residence at Bailey Hall has been interesting and challenging. As a result of this experience, along with the enthusiastic response in other Big Ten schools to this type of housing, consideration is being given to adjusting the apparent shortage of women's spaces and temporary excess of men's spaces by developing Pioneer Hall with its two separate courts into this type of living.

Staff Housing—The former Staff Housing office has been renamed University Housing, and serves to co-ordinate all single student, married student, and staff housing facilities owned by the University, and to aid staff in locating privately owned housing. In addition to the daily personal contact services to staff in the biennium tabulated below, several hundred letters were given attention.

	1958-59	1959-60	Total
Interviews	425	379	804
Listings—Rooms	191	143	334
Listings—Rentals	945	693	1,638
Listings—Sales	43	58	101

It is anticipated that approximately 11 new lots will be platted and available at University Grove for lease and construction of homes by University faculty during spring, 1961. This first phase in the extension of the Grove site will result from the removal of 32 barrack buildings in the late fall of 1960, in accordance with approval by the Board of Regents.

Staff housing at Duluth in the University-owned Alworth Apartments is administered by the office of the business manager at Duluth.

Eating Facilities—Sales volume at Coffman Union Food Service in the second year of the biennium decreased for the first time in 8 years. Total customer count, however, increased, so that service to the University actually

was increased. As prices advance students buy less food or less expensive food. More and more students are bringing or buying bag lunches and using coin-operated vendors. These trends warrant expansion and improvement of service to commuters. Constantly rising payroll costs are a threat to a University-operated food service, and a positive attitude must be adopted toward utilizing labor-saving equipment and more fully pre-mixed and pre-processed foods, along with attempting to obtain greater staff efficiency. Of the 10-year \$208,500 remodeling program covering loading and receiving areas, additional walk-in and deep-freeze refrigeration, and cafeteria lighting, heating, and ventilation improvement, projects totaling approximately \$42,500 should be accomplished in the coming year. The awarding of 5 tuition scholarships to outstanding Food Service employees brings to 15 the total number of Coffman Memorial Union Food Service scholarships provided out of gratuity funds from parties and banquets since the start of the project in 1956.

The Shevlin kitchen renovation project is being integrated with the remodeling of Shevlin Hall provided for by legislative appropriation covering the addition of a floor to extend the wings of the original structure over the present kitchen and part of the cafeteria areas. It now appears that completion will not be achieved until spring, 1961 so an improvised set-up for Shevlin food service is being planned for 1960-61.

Administrative responsibility for the St. Paul Cafeteria was transferred from the School of Home Economics to University Services at the start of the biennium. Food service facilities continued to be used by the School and the School of Agriculture for some classroom work. Instructors provided by the School of Home Economics worked in co-operation with the Cafeteria management in scheduling student work in quantity cooking and institutional experience. The move from the old Cafeteria to the new St. Paul Dining Center, at the start of winter quarter, 1960, was marked by a considerable enthusiasm on the part of students and staff for answer to a long standing need on the St. Paul Campus. The move was accompanied by extremely high activation costs in getting the operation under way, and the total cost estimate for moving and making necessary changes and adjustments to the building and equipment is approximately \$6,500. More favorable financial results from operations should develop after the initial experience with the unexpectedly high utility costs and high payroll costs in the new building. The opening of Bailey Hall in the fall of 1958 provided board contracts for these college residents, but other increases in St. Paul cafeteria volume have not so far developed.

On April 16, 1959, with the opening of the new St. Paul Campus Student Center, administrative responsibility for the Student Center was similarly transferred to University Services, completing the consolidation of food services on the St. Paul Campus under one management. The transition period has now passed, and the St. Paul Student Center Board of Governors has co-operated well in attempts to improve and expand the services to meet the needs of the St. Paul Campus community. Vending machines, including a sandwich vendor, have been installed to supplement service when the Snack Bar is not open.

Other Services—Projects of major importance involving a substantial expenditure of funds are vital to improve room occupancy and future successful operation of the Center for Continuation Study residence hall. Proposals include provision for a definite proportion of rooms available for rent to transient guests of the University, the furnishing of information to departments and staff members on the availability of Center rooms for guests and visitors, elimination of as many singles without bath as possible by converting 3 adjoining singles into 2 doubles with bath to improve facilities and add one-third more to the capacity of these rooms, installation of room-size air conditioning units in about 40 per cent of the rooms and installation of a combination passenger-service elevator. With these recommendations in effect, occupancy should show substantial gains and a needed service would be adequately provided.

Beginning June 15, 1959 food stocks and equipment were moved out of the old Cold Storage building on the St. Paul Campus, which had served the department since 1918, to the newly completed Food Stores building. The

new building is located on Fairmount St. and Twenty-ninth Ave. S.E., in an area designated for service buildings, just east of the Chemical Storehouse. Integration of these departments in such a location has released valuable space on the Minneapolis and St. Paul campuses, and is making possible economies such as joint use of truck and driver by more than one storehouse department. At the time of the move, ice cream production was transferred from Food Stores to the Milk and Cream department, and groceries and paper supplies used for food service were transferred from General Storehouse to Food Stores for uniform handling of all food service items. The building is one story, designed to meet anticipated needs for meat storage, freezing, and preparation; for produce, potatoes, dry foods, and frozen foods storage; and for other facilities such as dockage, office, conference room, test kitchen, and employee service areas. The dry storage area is equipped with pallets and fork trucks for mechanized handling.

The Milk and Cream wing attached to the Food Stores building was completed by the close of the biennium, and the move of the milk and ice cream operation started in June, 1960.

The University's modern laundry plant was featured in an article appearing in *Institutions* magazine, entitled "U-Shape Plan for Efficient Laundry Processing," showing pictures of the plant in operation on a typical day of 15,000 pounds production, and a diagram demonstrating the systematic flow without cross-over or backtracking.

Refectory Service was renamed Vending Service as more indicative of the enlarged field of operations of this department, which is the central agency designated to operate and control vending by coin-operated machines. The department is growing and financing its own growth. The University has now taken over operation of coin-operated laundry machines in virtually all University residences, and scope of the service is now approaching full line vending. The value of the department as a control agency in curbing illegitimate concessions is becoming increasingly evident with the passage of time. Trained staff and good equipment are the two prime requisites in successful operation. Equipment purchases must be made with due regard for ease of maintenance, cost, and availability of repair parts, and good original construction. A custom-tailored new refrigerated truck body and refrigeration installation in the old truck satisfy sanitation regulations for the City of Minneapolis and the University's Department of Environmental Health.

Constant improvement in service at Stadium Stands is the only possible method toward growth in service. Planning for some time has been toward the elimination of the bottled cold drink, for two reasons: labor costs in packing, icing, and handling empties have become prohibitive as the wage scale increases; and in the matter of public health, bottles in coolers offer danger through handling in possible contamination of the poured beverage. Bottles are no longer used at Williams Arena. Planning for the future includes a special events trailer for better service at baseball games, on Northrop Field, and probably in the Indoor Sports Building; and permanent concession stands to serve the bleachers at the open end of Memorial Stadium. Refurbishing of the food and golf supply concession area in the Golf Course Club House has been completed, with installation predicated on the best practices in sanitation and cleanliness.

Audio-Visual Education Service has proceeded in the conduct of an all-University audio-visual equipment study of the range and kind of materials and activities on the campus, determining average class hour per week usage and kinds of courses for which the equipment is used. As a result of the need to develop methods for promoting more effective use of the central service and equipment pool, and to stimulate greater interest in developing audio-visual instruction materials by teaching departments, the Faculty Teaching Materials Laboratory has been established. In its first year of operation it has served in areas of self-production of materials, materials and equipment valuation, in-service training, new service development, research and experimentation. Additional film preview space and a new film storage vault for the Campus Film Library have been provided. Production Division activities have grown to the greatest extent, largely due to requirements of television for laboratory processing. The Photographic Laboratory was moved from the

Old Dairy Building on the St. Paul Campus to the former Cafeteria building, now renamed North Hall, in a remodeled area carefully planned to minimize labor in the production of high quality work.

The Truck Service department established, in May, 1959, a Driver Review Board, which meets monthly to review vehicle accidents so that all possible steps may be taken to prevent recurrence. Membership on the board was set up to include 3 full-time professional drivers each with 4-year safe driver awards, and 2 safety engineers, 1 from the University and 1 from an insurance company, as advisers. Decisions reached are in accordance with established rules of the National Safety Council. The sixth annual safe driver award meeting has been held, and a driver refresher course is being planned for the coming fall. Preventative maintenance is practiced on Truck Service vehicles assigned to departments which serve the University on an over-all basis, the truck pool, the cars and station wagons constituting the Transportation pool, and other department vehicles and motorized vehicular equipment serviced in the repair shop, by way of checking and adjusting before sizable malfunctions or breakdowns occur.

The Intercampus Bus line experienced the strike affecting the Twin Cities franchised transportation system from November 9 through December 1, 1959, with resulting difficulties in transporting students between the Minneapolis and St. Paul campuses. Beginning the second day of the strike, transportation was resumed by contract with another company for temporary service through the strike period. Limited evening service was provided to Pratt, Tuttle, and Motley schools for education students attending observation classes.

Planning by the department of Scientific Apparatus Services for its move to the basement of the new Diehl Hall is close to completion, and the move in the near future is anticipated. The new quarters are intended to fulfill the future space needs for the service requirements of the department in designing, constructing, and servicing and repairing technical apparatus.

The Glassblowing Shop has continued to experience difficulty in attracting and retaining experienced glassblowers and promising glassblower apprentices, vitally needed to meet the persistent demands for products of skilled craftsmanship. More suitable quarters providing additional space and better ventilation with temperature and humidity control are needed to reduce material loss and handling costs.

Efforts have been directed toward refurbishing the Barber and Beauty Shops located in Coffman Memorial Union. New equipment has been ordered to replace all outdated furnishings in the Beauty Shop, to make it an attractive and pleasant, modern service shop.

Comparative Earnings, University Services Departments

	1958-59	1959-60
Centennial Hall	\$ 586,814.29	\$ 619,337.43
Pioneer Hall	279,410.98	155,344.32
Territorial Hall	253,285.38	262,148.34
Frontier Hall		256,143.68
Comstock Hall	414,265.52	522,548.03
Sanford Hall	206,697.61	210,082.62
Winchell Cottages	23,878.74	209.96
Bailey Hall	61,055.87	97,981.02
St. Paul Campus Dormitories	42,631.76	41,999.99
Como Avenue and Grove East Housing Project	324,581.20	299,221.38
Commonwealth Terrace	102,098.86	190,981.04
Thatcher Hall	32,674.47	32,056.19
Kewanis Court	23,247.80	21,650.20
University Grove Rentals	5,760.25	5,561.00
Duluth Branch Cottages and Apartments	7,510.10	8,666.15
Center for Continuation Study Hall	47,560.52	42,885.08
Coffman Union Food Service	627,600.20	606,373.69
Spevlin Cafeteria	80,247.27	90,585.03
St. Paul Dining Center	212,412.82	221,814.31
St. Paul Student Center Snack Bar	20,363.57	97,622.78
Milk and Cream	213,595.69	246,306.79
Food Stores	650,683.80	852,585.72
Stadium Stands	103,989.78	119,115.67

	1958-59	1959-60
Vending Services	73,320.58	94,395.92
Audio-Visual Education Service	160,022.20	217,418.87
Photographic Laboratory	53,470.86	48,555.30
Printing Department	508,742.65	533,913.44
Bindery	60,826.32	61,071.87
Mimeograph Department	66,214.19	67,944.79
Mimeograph and Bulletins (St. Paul Campus)	79,408.16	63,665.06
Laundry	312,186.04	331,690.99
Post Office and Campus Mail	999.96	999.96
Transportation	31,512.08	30,478.48
Lockers	5,995.08	4,817.43
Como Clinic Building	650.00	750.00
Barber and Beauty Shops	6,544.51	6,610.90
Pioneer and Centennial Recreation Dens	23,340.34	31,017.38
Pioneer and Centennial Laundry Dens	1,672.55	1,534.68
Comstock Hall Candy Counter	12,508.81	17,553.17
Sanford Hall Candy Counter	7,796.10	7,617.68
St. Paul Campus Residence Halls Candy Counters	8,304.24	8,901.75
Intercampus Bus	21,427.32	20,313.26
Scientific Apparatus Services	30,211.58	38,644.73
Glassblowing Shop	26,706.26	24,867.54
Truck Service	24,623.71	32,340.34
	\$5,836,850.02	\$6,646,323.96

The above table lists the departments of the University operated under the central administrative office for University Services, with comparative gross earnings for the 2 years of the biennium.—C. T. JOHNSON, *director*

OFFICE OF THE COMPTROLLER

The Office of the Comptroller has the responsibility for many functions in the business administration structure of the University. Probably the most familiar of these are payroll, purchasing and accounting, with some others being the general and chemical storehouses, bursar, treasurer's office, inventory, investments, trusts and research contract co-ordination.

We have chosen three topics to describe some of the special responsibilities carried out by the Office of the Comptroller during the 1958-60 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, 1960, the endowments totaled \$63,183,616.75. Of this sum \$45,701,377.23 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 \$118,424.88 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 \$17,363,814.64, 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 2-year period the larger endowment gifts included the following:

The Marlow Bergstrom Memorial Fund, \$147,784.10. This gift applies to research in rheumatoid arthritis.

Donald J. Cowling Medical Research Fund, \$200,000.00. This anonymous gift named for Dr. Cowling is to be used in the treatment and prevention of coronary arteries disease and of malignant disease.

John A. Clark Research in Diseases of Heart and Cancer, \$50,127.84. This gift, as the name indicates, is to be used for research in the diseases of heart and cancer.

Marcia M. Enbody Scholarship Fund, \$42,000.00. This gift, received from the Minneapolis Youth Center, provides scholarships to University freshmen graduating from Minneapolis and suburban high schools.

John P. Fridley Foundation Fund, \$325,802.29. This gift provides for scholarships, fellowships and research in the field of engineering.

William W. Stout Memorial Scholarship Fund, \$157,500.00. This gift is to be used for scholarship aid to worthy and needy students.

Charles J. Brand, Class of 1902 Scholarship in Botany, \$40,000.00. This gift, as the name implies, provides for scholarships in Botany.

In addition, several other gifts of \$25,000 to \$40,000, and many smaller donations were received for various University purposes.

The income from the endowment funds administered by the Board of Regents approximated \$700,000 each year during fiscal 1959 and 1960.

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, 1959		June 30, 1960	
	Amount	Per Cent	Amount	Per Cent
Cash	\$ 299,047.80	1.7	\$ 281,787.71	1.6
Bonds:				
U. S. Government	1,094,976.13	6.4	1,449,626.51	8.3
Public Utility	3,319,523.84	19.4	2,483,293.54	14.3
Industrial	2,362,562.50	13.8	2,986,968.75	17.2
Railroad	50,000.00	.3	50,000.00	.3
Equipment Trust Certificates	695,465.63	4.1	843,305.86	4.9
Other	208,920.94	1.2	456,052.12	2.6
Unamortized Premium	60,532.42	.4	52,850.07	.3
Mortgages	949,180.38	5.6	552,174.78	3.2
Preferred Stocks	1,022,870.76	6.0	1,003,846.41	5.8
Common Stocks	6,666,908.78	39.0	6,825,737.89	39.3
Real Estate	365,896.00	2.1	378,171.00	2.2
Total Endowment Assets Managed by the Board of Regents	\$17,095,885.18	100.0	\$17,363,814.64	100.0
Book Value-Group Investment Fund	\$15,867,470.74		\$16,531,347.88	

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 1958-59 the University spent \$11,652,151.00. The accompanying schedule

shows the growth by years of research expenditures. This schedule also shows the source of the funds for this research. For the year 1958-59 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	\$ 7,625,212	65.5
The State	1,205,163	10.3
Gifts	2,505,344	21.5
Income from Endowment	316,432	2.7
Total	\$11,652,151	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	\$ 742,274.00
Federal Agencies—Defense Contract Research	2,849,664.00
Other Federal Agencies	4,033,274.00
Total	\$7,625,212.00

From State Funds—This includes special State appropriations for research such as medical research, soil survey, beneficiation of manganiferous ores, and agricultural research. This also includes grants from State agencies such as from the Iron Range Resources and Rehabilitation Commission, and the Department of Conservation. A breakdown of these two main sources of state funds for research is as follows:

Special State Appropriations	\$1,048,160.00
State Agencies	157,003.00
Total	\$1,205,163.00

From Gifts—This includes gifts and grants from business and industries, foundations, associations, individuals, and others. These funds are expendable for the specific research. Examples are as follows:

Business and Industries:

General Mills Incorporated and National Dairy Council.

Foundations:

Louis W. and Maud Hill Family Foundation and Rockefeller Foundation, Nutrition Foundation.

Associations:

Minnesota Heart Association and American Cancer Association.

A further breakdown of the source of these funds is as follows:

Business and Industry	\$ 858,172.00
Foundations, Associations, Individuals and Others	1,647,172.00
Total	\$2,505,344.00

Income from Endowment—This category includes for the most part income from various endowment funds such as the Mayo Foundation, Malignant Disease Research Fund and American Legion Memorial Heart Research Professorship. Some gifts are given to the credit of an endowment fund and part or all of these funds may be expendable and are not to be invested. If this is the case, these funds would show in the report under the heading of Endowments. In either case the funds under this category are expendable and are not to be invested. The total amount of funds expended from income from endowment was \$316,432.00 in 1958-59. Of this amount, the largest was the income from the Mayo Foundation Endowment which amounted to \$124,369.00.

SUMMARY OF RESEARCH EXPENDITURES FROM ENDOWMENT INCOME
GIFTS, GRANTS, AND FROM SPECIAL APPROPRIATIONS FROM THE STATE AND FEDERAL GOVERNMENTS

1946-47 to 1958-59

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				
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	.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	1,609,640.78	18.4	28	253,472.77	1.6	
1954-55	721	7,161,320.64	6.2	339	5,553,604.68	6.9	21	856,276.63	9.4	318	4,697,328.05	6.5	356	1,358,218.30	3.6	26	249,497.66	4.6	
1953-54	640	6,742,752.94	8.4	310	5,192,970.05	4.3	26	782,668.69	3.1	284	4,410,301.36	4.5	308	1,311,335.51	23.6	22	238,447.38	33.9	
1952-53	556	6,217,732.70	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	984,127.92	21.5	18	168,202.73	3.3	
1950-51	463	4,058,614.66	20.5	202	3,074,612.59	27.8	18	549,006.33	0.4	184	2,525,606.26	35.9	246	810,077.45	0.7	15	173,924.62	19.1	
1949-50	426	3,367,130.06	8.1	165	2,405,242.21	6.8	21	546,825.40	18.8	144	1,858,416.81	3.8	246	815,810.40	7.6	15	146,077.45	38.1	
1948-49	386	3,114,927.24	18.8	133	2,251,224.44	27.6	18	460,436.53	4.1	115	1,790,787.91	35.5	243	757,937.73	0.2	10	105,765.07	6.5	
1947-48	336	2,622,534.71	65.8	108	1,763,837.46	92.2	19	442,101.12	86.3	89	1,321,736.34	94.3	219	759,399.26	33.8	9	99,297.99	2.8	
1946-47	294	1,581,594.22	40.7	74	917,510.17	29.2	12	237,323.20	8.2	62	680,186.97	50.6	213	567,522.42	80.2	7	96,561.63	2.3	
Total Expenditures 1946-47 to 1958-59					\$78,014,901.64			\$58,680,065.24			\$ 9,488,181.87			\$49,191,883.37			\$16,762,465.77		\$ 2,572,370.63

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 for 1958-59. 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	75	\$ 408,393	3.5
Institute of Technology	215	3,972,088	34.1
Institute of Agriculture	126	1,913,995	16.4
College of Medical Sciences	444	3,822,647	32.8
Dean of Students	2	6,564	.1
College of Veterinary Medicine	34	360,682	3.1
School of Dentistry	12	24,633	.2
Law School	1	9,083	.1
College of Pharmacy	3	4,845	.1
College of Education	15	194,190	1.7
Graduate School	49	797,956	6.8
School of Business Administration	13	109,594	.9
Duluth Branch	4	27,178	.2
Extension Division	1	153	
University Health Service	1	150	
Total	995	\$11,652,151	100.0

—C. T. JOHNSON, *comptroller*

PROTECTION AND SAFETY

The scope of the over-all program of the Department of Protection and Safety is not well known because the success of the program is based primarily on the anonymity of specific incidents. The following points summarize some of the special projects which have been accomplished during the past 2 years in addition to the regular protection and safety program.

Security—The Department of Protection and Safety is the University of Minnesota's security office for the government research contracts conducted by the University. In this connection all personnel security questionnaires are processed. The processing of these personnel security questionnaires includes fingerprinting the staff members concerned, checking comprehensive questionnaires for accuracy, and the maintenance of files containing classified information with respect to clearances of individual staff members.

Whenever it is necessary for a staff member to travel to some other facility in connection with his research program, a visit authorization must be processed.

The Department of Protection and Safety is also responsible for the maintenance and control of all safes on the University campus containing classified documents. This responsibility involves the changing of the safe combinations at least once annually. At the present time there are 62 such safes.

Polygraph Examinations—From July, 1958 through June 30, 1960, a total of 323 polygraph (lie detector) examinations was given by this department to outside agencies. These examinations represent 86 different agencies. This reflects an increase of 48 examinations and 19 agencies over the previous biennium.

Parking—The Department of Protection and Safety has the responsibility for the operation of all campus parking facilities. A summary of the available parking space on June 30, 1960, is as follows:

	Transient	Contract	Total
Outside Lots	5,131	670	5,801
Garages and Ramp	577	739	1,316
Total	5,708	1,409	7,117

This represents an increase of 860 parking spaces over the previous biennium.

A summary of the cars parked during the 1958-60 biennium shows the following annual breakdown:

	1958-59	1959-60	Total
Transient Cars	1,703,528	1,721,177	3,424,705
Contract Cars	397,124	443,924	841,048
Total	2,100,652	2,165,101	4,265,753

This represents an increase of 376,705 vehicles parked over the previous biennium.

In acquiring labor to meet the increasing parking work-load, the Department of Protection and Safety enthusiastically supports the policy of using students to the maximum extent possible. During this last biennium 532 students were employed. The payroll for these 532 students amounted to \$282,934.06 for the biennium.

Public Relations—During the past 2 years 5 members of the Department of Protection and Safety have lectured to approximately 34 church, civic, and educational organizations. In addition to these the director presented a paper to the American Academy of Forensic Sciences at their annual meeting in Chicago in 1959.

Services—Several additional types of service are handled by the Department:

- a. Money pick-ups and deliveries which represent the protection and transportation of thousands of dollars of University funds annually.
- b. Transportation of minor sick and injured University staff members and students.
- c. Operation of the Lost and Found Department.
- d. Supervision and control of all University building keys.
- e. Assisting strangers in finding various buildings and University personnel.
- f. Fingerprinting and notarial services for the public.
- g. Supervision of alcohol storage units to comply with government regulations on the storage of alcohol.
- h. Service on State, County and Municipal boards for selection and promotion of police officers.
- i. Maintenance of a uniformed patrol at the University Rosemount facility.

Training Program—The training program for personnel consists of a 56-hour in-service training program over a 28-week period with classes 1 night a week.—C. B. HANSCOM, *director*

OFFICE OF THE FIELD AUDITOR

During the 1958-60 biennium the State Public Examiner completed and reported on his audit of University records for the fiscal years 1956, 1957, and 1958. The Office of the Field Auditor worked closely with the Examiner's staff during this period assisting them in obtaining data and effecting changes recommended by them.

An extensive audit of the General Storehouse was made during this biennium resulting in changes in inventory control, pricing, and record keeping. The value of the physical inventory was reconciled to the general ledger control and procedures were established for annual inventories to be made by storehouse personnel.

The program has been revised to provide more frequent payroll audits and accounts receivable verification and annual audits of the branch stations.—J. L. DUFFY, *field auditor*

DEPARTMENT OF INSURANCE AND RETIREMENT

Faculty Retirement Plan—On April 8, 1960 the Board of Regents approved several significant changes in the Faculty Retirement Plan the more important of which were:

- A. The total retirement allowance including the total individual income from Social Security shall be subject to the following maxima:

Professors	\$5,500
Associate Professors	5,000
Assistant Professors	4,500
Instructors	4,500

- B. Accelerated the purchase of retirement annuity units to 1 unit each of the first 3 years of participation and 3 units per year thereafter until the individual's program has been completed.

(B above, in which 3 units a year are purchased beginning with the fourth year, produces a greater proportion of the maximum retirement allowance from the retirement contracts; eventually almost all retirement allowances will be on fully funded basis, or nearly so.)

Group Hospitalization and Group Medical Surgical Coverages—Premium increases were made by both Minnesota Blue Cross and Minnesota Blue Shield. Minnesota Blue Shield added Diagnostic X-Ray and Laboratory Services in its contract effective October 15, 1959.

Other Insurance Including Fire, Liability, Workingmen's Compensation, Property Floater, Marine, Boiler, Aircraft, Surety and Motor Vehicle—While the volume of the above insurance categories showed an expected increase in the 1958-60 biennium, University policy on insurance was relatively unchanged and problems related to insurance were very similar to those of the preceding biennium.—RAY F. ARCHER, *director*

PATENTS

Assignment of Patent Applications, 1958-59

Assignment of Application for Patent, Serial No. 735,984, Samuel T. Coulter, Butter Spreadability.

Assignment of Application for Patent, Serial No. 782,755, Fred Smith et al, Polysaccharide Reaction and Product.

Assignment of Application for Patent, Serial No. 782,757, Richard A. DeWall, Capillary Oxygenator.

Assignment of Application for Patent, Serial No. 806,851, Donald E. Anderson, Means for Activating Cathode Surfaces by Electrolysis.

Patents Received, 1958-59

Original Patent No. 2,883,826 (Application Serial No. 330,154) Fred Smith et al, Process for Conditioning Plant Fibers for Spinning.

Original Patent No. 2,887,390 (Application Serial No. 367,472) Samuel T. Coulter et al, Method and Apparatus for Spray Drying.

Original Patent No. 2,876,524 (Application Serial No. 474,024) Floyd H. Reyerson et al, Method of Altering Linear Condensation Polymers.

Original Patent No. 2,878,093 (Application Serial No. 488,115) Peter Wargo, Method of Preparing Emitter Surfaces.

Original Patent No. 2,875,060 (Application Serial No. 511,459) Ralph T. Holman, Food Composition and Method of Preserving the Same.

Original Patent No. 2,881,733 (Application Serial No. 377,386) George A. Young et al, Brooder for Quadrupeds.

Original Patent No. 2,854,002 (Application Serial No. 656,175) Richard A. DeWall, et al, Oxygenator.

Assignment of Patent Applications, 1959-60

Assignment of Application for Patent, Serial No. 834,103, Stanley M. Block, Sequential Electronic Motion Timer and Recorder.

Assignment of Application for Patent, Serial No. 847,353, Lorenz G. Straub et al, Wave Attenuating Device.

Assignment of Application for Patent, Serial No. 860,725, Leon Singer et al, Food Treating Process.

Assignment of Application for Canadian Patent, Serial No. 795,003, Norman F. Schulz, Magnetic Roasting Process and Apparatus.

Assignment of Application for Patent, Serial No. 33,020, Fred Smith et al, Preservation of Animal Material.

Patents Received, 1959-60

Original Canadian Patent No. 582,056 (Application Serial No. 704,384) Wayne E. Apuli, Pelletizing Process.

Original Patent No. 2,932,759 (Application Serial No. 444,773) William G. Shepherd, Vacuum Tube.

CASH GIFTS

Summary of Gifts, 1958-59

(Exclusive of Federal and State)

Expendable		
For Education and Research	\$3,042,969.95	
For Student Aid	666,397.77	
For Other Purposes	496,836.40	
Total Expendable		\$4,206,204.12
Capital		
Endowment		
For Education and Research	\$ 401,575.48	
For Student Aid	423,958.81	
For Other Purposes	30,147.71	
Operating Temporarily as an Endowment	150,512.84	
Loan Funds	27,409.13	
Plant Funds	300,272.49	
Total Capital		\$1,346,193.70
Grand Total		\$5,552,397.82

Summary of Gifts, 1959-60

Expendable		
For Education and Research	\$3,697,437.10	
For Student Aid	707,666.57	
For Other Purposes	747,511.07	
Total Expendable		\$5,152,614.74
Capital		
Endowment		
For Education and Research	\$ 25,435.03	
For Student Aid	265,852.74	
Subject to Annuity	8,000.00	
For Other Purposes	12,615.77	
Operating Temporarily as an Endowment	2,456.72	
Loan Funds	27,409.13	
Plant Funds	518,226.23	
Total Capital		\$ 859,995.62
Grand Total		\$6,012,610.36

—L. R. LUNDEN, *vice president*

PUBLICATIONS OF THE FACULTIES

A list of the publications of the faculties of the University of Minnesota for 1958-59 and 1959-60 are contained in separate publications.

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