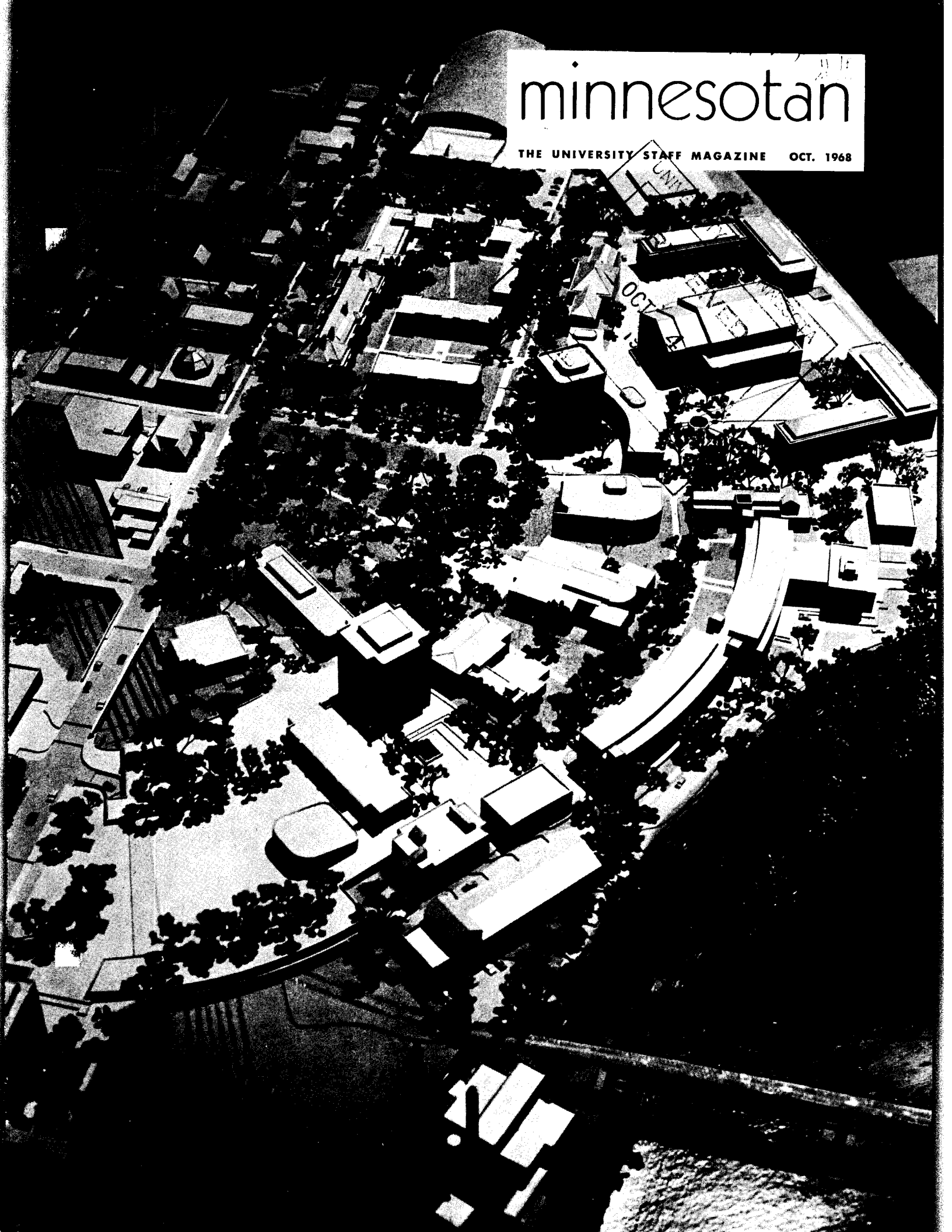


# minnesotan

THE UNIVERSITY STAFF MAGAZINE OCT. 1968



# Realigned

Strengthened by the creation of two new Vice-Presidential positions, the central administration of the University of Minnesota is prepared to deal with the growing complexity of University problems in 1968-1969 and in the years ahead.

Appointment of Dr. Donald K. Smith as Vice President for Administration and Dr. Paul Cashman as Vice President for Student Affairs was recommended by President Malcolm Moos and approved by the Board of Regents on April 19. At the same time Vice President Stanley J. Wenberg, Educational Relationships and Development, was assigned the central administrative responsibility for coordinating and developing the University's outstate campuses.

To fill the positions vacated by Vice President Smith and Vice President Cashman when they assumed their new offices on July 1, the Board of Regents on July 12 appointed Dr. James F. Hogg as Assistant Vice President for Academic Administration and Dr. Stanley B. Kegler as Assistant Vice President for Educational Relationships and Development.

In another July 12 action of the Board of Regents, Dr. Rodney A. Briggs was named Provost of the University of Minnesota, Morris. He had been Dean of the Morris Campus since 1960.

Vice President Smith described his new duties as the handling of day-to-day problems — including queries and complaints — in order to free President Moos for larger concerns. He expressed special interest in the organization of a data base to be used in decision-making.

When he recommended the appointment of Vice President Smith, President Moos told the Regents, "It is impossible for the President alone to coordinate the myriad responsibilities of the University's central administration while attempting at the same time to encourage the educational innovations demanded of the modern university. I shall look to Vice President Smith especially for coordinating administrative response to the instructional developments required if the University is to respond more fully to the educational needs of its students, and of the state."

Vice President Smith previously held the position of Associate Vice President for Academic Administration and was chairman of the All-University Council on Liberal Education, a committee of the Faculty Senate especially concerned with the improvement of undergraduate education throughout the University.

"A more visible and more involved administrator who devotes more of his time centrally to student concerns" is what Vice President Cashman hopes to be in his new position. Observing that President Moos' openness about meeting students shows "the direction we need to go," Vice President Cashman said that he plans to be accessible to the students and will work to open more channels of communication with them.

Designation of a Vice President for Student Affairs came at this time, he said, because of the "growing relationships between students and the University administration and faculty." He believes that students should work in an alliance with faculty members and administrators to develop new and innovative learning experiences and identify areas where change is needed.

*Maureen Smith, Editor*

*Joan Friedman, Associate Editor*

#### ADVISORY GROUP

*William L. Nunn, Director / William T. Harris, Jr., Assistant Director / Advisory Committee: Members of the University Public Information Council. The MINNESOTAN is published monthly October through May by the Department of University Relations, 220 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Subscription-free copies mailed to full-time staff members. Non-staff member subscription rate: \$2.00 per year, \$3.00 per copy. Copies of each issue on sale at Coffman Memorial Union Bookstore. Second class postage paid at Minneapolis, Minnesota.*

ON THE COVER is a model showing proposed construction for the Knoll Area north of the Mall.



Vice President Donald K. Smith



Vice President Paul H. Cashman

minnesotan

Vol. 18 No. 1

# Administration Ready for 1968-1969

Vice President Cashman, who had previously been Assistant Vice President for Educational Relationships and Development, returned in August from a trip to Western Europe. Although students on both continents are concerned about the "quality of their own classroom experience and the relevance of that experience to the world in which they live," Dr. Cashman commented that relationships between students and administrators in Europe are marked more by confrontation and rigid response. "My impression is that we're somewhat better off in our relationships," he said, "but we'll have to work hard to respond to changing student needs. To fail to do this is to invite chaos."

The assignment of a central administrative officer with specific responsibility for the development of the University's outstate campuses reflects the growing recognition of the University as a multicampus institution. President Moos stressed that the new assignment for Vice President Wenberg was in no sense a move to lessen the autonomy of the campuses at Duluth and Morris, but was rather intended to facilitate the development of these collegiate units by assuring them a strong, direct, and continuous liaison with the University's central administration.

Assistant Vice President Hogg, whose new position is in the office of Vice President William Shepherd, Academic Administration, will assume some of the duties formerly performed by Vice President Smith. A professor of law, Dr. Hogg joined the Minnesota faculty in 1956. His area of special interest in law is international law, and he was recently in Indonesia participating in a preliminary study of the Indonesian judicial system, a study sponsored by the Ford Foundation.

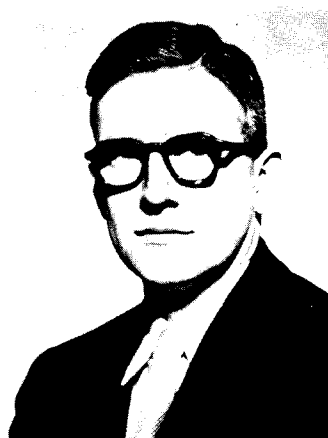
Three areas of responsibility were outlined by Assistant Vice President Kegler in a discussion of his new

position. He will be working to "coordinate centrally all requests that go to the federal government for funding for facilities." He will work with the Duluth and Morris Campuses, through Vice President Wenberg, in order to "develop a system of relationships between those two and the Twin Cities Campus." And he will work with other state schools — state colleges, junior colleges — to formulate cooperative programs of curriculum development and innovation.

Dr. Kegler came to his new office from the College of Education, where he was Associate Dean. He has served as interim director of the Upper Midwest Regional Educational Laboratory and was executive secretary to the advisory and steering committee which developed the proposal for the February merger of Marshall and University High Schools.

The change of title for Provost Briggs does not bring a change of duties, but it is a better representation of the duties he has already been performing. Vice President Wenberg commented, "This new title more accurately reflects the wide range of Dr. Briggs' Morris Campus responsibilities and brings the leadership title for the Morris Campus into conformity with the title at the Duluth Campus."

In discussing the administrative realignment with the Board of Regents in April, President Moos observed that "most universities of our size have a much more elaborate staff of central administrative officers directly responsible to the President than will be provided by our arrangements even after these changes become effective. I hope to keep our central staff at a minimum level needed to provide effective administration, but I want to be certain that the creativity and imagination of our faculty are effectively supported."



LEFT TO RIGHT, Assistant Vice President Stanley B. Kegler, Educational Relationships and Development; Assistant Vice President James F. Hogg, Academic Administration; Vice President Stanley J. Wenberg, Educational Relationships and Development; Provost Rodney A. Briggs, Morris Campus.

# Journalism School Marks

In Murphy Hall, home of the School of Journalism and Mass Communication, an anniversary celebration has been going on for more than a year. Commemorating the fifty years of journalism education at the University of Minnesota, the School joined the Minneapolis *Tribune* in sponsoring a Symposium on World Journalism on May 24, 1967, held a variety of special seminars and programs throughout the 1967-1968 academic year, and continues its anniversary observance in the fall of 1968.

"The Function of Journalism in a Dynamic Society" was the theme of the one-day Symposium, a shared birthday observance with the *Tribune* in its centennial year. University Regent Otto A. Silha, Vice President and General Manager of the *Star* and *Tribune*, presided at the morning session, and Professor Mitchell V. Charnley, first member of the School's faculty to hold the William J. Murphy Professorship of Journalism and Mass Communication, gave a "Foreword" address. Speakers included Mrs. Katherine Graham, President of the *Washington Post*; Mr. James Reston, Editor of the *New York Times*; Mr. Tor Gjesdal, Assistant Director-General in charge of communication, United Nations Educational, Scientific and Cultural Organization (UNESCO) in Paris; and Lord Francis-Williams, British journalist and critic.

Among the activities of the 1967-1968 academic year were a Homecoming Luncheon, News Executives Conference, Northwest Broadcast News Association Seminar, Ralph D. Casey Seminar, Twin Cities Newspaper Guild Lecture, and national conventions of Sigma Delta Chi, professional journalistic society, and Kappa Alpha Mu, photojournalism society. Professor George S. Hage, as Minnesota chapter president, was in charge of plans for the Sigma Delta Chi convention.

When continuous journalism instruction began in 1917, only five courses were offered — all taught by the same instructor. A Department of Journalism was formed in 1922, and this became the School of Journalism in 1941 and the School of Journalism and Mass Communication in 1966. With a faculty of 18 and a student enrollment of 500 declared journalism majors, the School now offers 83 courses leading to the B.A., M.A., and Ph.D. degrees. It is the only accredited journalism unit in Minnesota and is one of two accredited journalism schools in Minnesota and the Dakotas.

For more than half of the years since 1917, the Department — and then the School — of Journalism was under the direction of Professor Ralph D. Casey, a former Seattle and New York newspaperman, who was appointed Chairman of the Department in 1930 and designated Director of the School in 1941. Professor Casey built a program of journalism instruction that gave students a broad academic background as well as strong competence in their fields of specialization. He

worked to integrate journalism with the social sciences, and he put new emphasis on courses in journalism history, press law, public opinion, and international journalism.

In 1944 the Journalism School, with help from the Minneapolis *Star* and *Tribune*, established the first formal Research Division in any school or department in the nation. The Division worked with the founding director of the Minnesota Poll to establish a state-wide sampling plan and to organize a continuing opinion survey system. Later studies for the *Star* and *Tribune* have included periodic analyses of reading patterns and audience attitudes. Among other research projects have been studies conducted for the Office of Naval Research on media use and audience information level, studies of the uses of educational television, and a study of public response to President Kennedy's death. Mr. F. Gerald Kline, the current director, is now conducting a study of mass media influence on jurists.

Professor Robert L. Jones, who had been Director of the Research Division since 1952 and who is an expert on specialized research methodology, became Director of the School when Professor Casey retired in 1958. Professor Jones recently concluded a term as President of the Association for Education in Journalism, a national organization whose annual convention was held at the University of Kansas in August.

Other senior members of the present faculty are Professor W. Edwin Emery, an authority on the history of mass communication; Professor J. Edward Gerald, an expert on the law and freedom of the press; Professor Raymond B. Nixon, a specialist on foreign journalism; Professor Donald M. Gillmor, an authority on the press as a social institution; Professor George S. Hage, a specialist in critical writing; Professor Harold W. Wilson, a leading expert in graphic arts; and Professor John C. Sim, an authority on the community press and on newspaper management. Professor Charnley retired last spring after a 33-year career at the University.

Honors have come to faculty members for their contributions to scholarship. Professors Gerald and Emery have won Sigma Delta Chi distinguished service awards for research in journalism. Under Guggenheim Fellowships Professor Gerald has conducted a study of the British press and Professor Emery a study of United States press associations here and in Europe.

Professor Charnley held a Fulbright Teaching Post at the University of Florence, Italy, and Professor Roy E. Carter, Jr., taught at the University of Santiago, Chile, on a Fulbright Teaching Post. Professor Carter, an authority on communication research methods, has just returned from an assignment as a member of a University of Minnesota teaching group at the University of Concepción.

# Fifty Years of Instruction

The strong research tradition of the School is also reflected in the editorship and location of *Journalism Quarterly*. The office of this national research journal remained in Murphy Hall when Professor Emery became the editor in 1964 after Professor Nixon had been editor for a 20-year term.

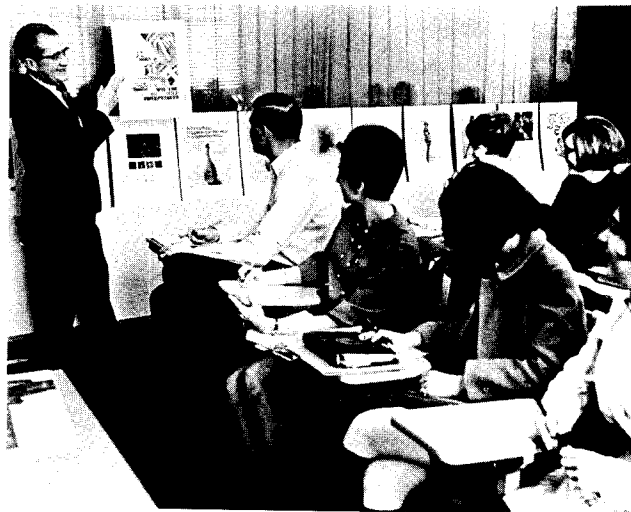
Distinguished journalists and public figures who have studied journalism at the University of Minnesota include Eric Sevareid and Harry Reasoner of CBS News; Harrison Salisbury and Graham Hovey of the *New York Times*; Carl Rowan, author and syndicated columnist; Max Shulman, author and playwright; Roy Wilkins, Executive Secretary of the National Association for the Advancement of Colored People; and Arthur Naftalin, Mayor of Minneapolis.

For students of today the School offers specialization in Broadcast Journalism, Creative Graphic Arts, Magazine Journalism, Newspaper Editorial, Newspaper Management, Photojournalism, Advertising, and Public Relations. Whatever field the student chooses, he builds his program on the foundations of a broad liberal education. Individual attention to each student is possible because editing classes are held to 12 students, reporting classes to 20, and other laboratory classes to about 25.

A potential area of expansion is in specialized news reporting such as labor news and the reporting of the arts. Last year the School began to offer classes in scientific reporting, a new field for students who combine an interest in science with an ability to write.

Although the offices of such student publications as the *Minnesota Daily* and the *Ivory Tower* are in Murphy Hall, the School does not supervise or manage these publications. The "publisher" is a Board in Control of Student Publications, which has a substantial majority of student members elected in all-University balloting. Student editors are responsible to the Board, which selects them and makes continuous appraisal of the publications. Many journalism majors are on the staffs of the

(continued on page 9)



UPPER, Mr. Mark F. Ethridge, former publisher of the *Louisville Courier-Journal* and Ralph D. Casey Seminar guest of the School of Journalism, talks informally with students and *Daily* staff members in the *Minnesota Daily* newsroom in Murphy Hall. LOWER, Professor Roy E. Carter, Jr., former Director of the Research Division, briefs interviewers in preparation for a survey study. LEFT, Associate Professor Jack N. Peterman and students in the "Principles of Advertising" course examine award-winning advertisements. Photographs by Professor R. Smith Schuneman.

Planning for the University involves much more than the designing of building complexes. The physical plan is an expression of the University's educational plans, an indication of its priorities, and an extension of its commitments to the learning process and to the life of the community around it.

Because of the central importance of planning to fulfillment of the University's mission, an administrative



## Through Eyes of Planners

# A Look at the Campus c

office was established in 1965 to facilitate and coordinate this activity. Director of Planning Elmer W. Learn, who is an executive assistant to the President and whose own academic background is in agricultural economics, says of the Planning Office: "We still see our role as coordinating the efforts of a lot of people in the University.

In the preparation of this year's legislative building request, for example, deans of the colleges consulted with their faculty members and prepared detailed statements of the academic programs associated with every major building that was proposed.

The Legislative Building Commission met June 27 in the Campus Club of Coffman Memorial Union and June

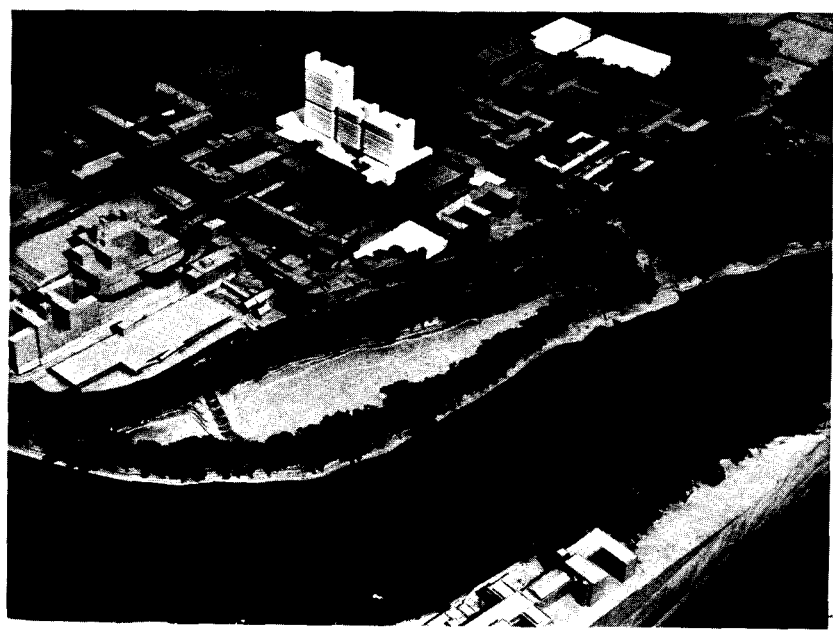
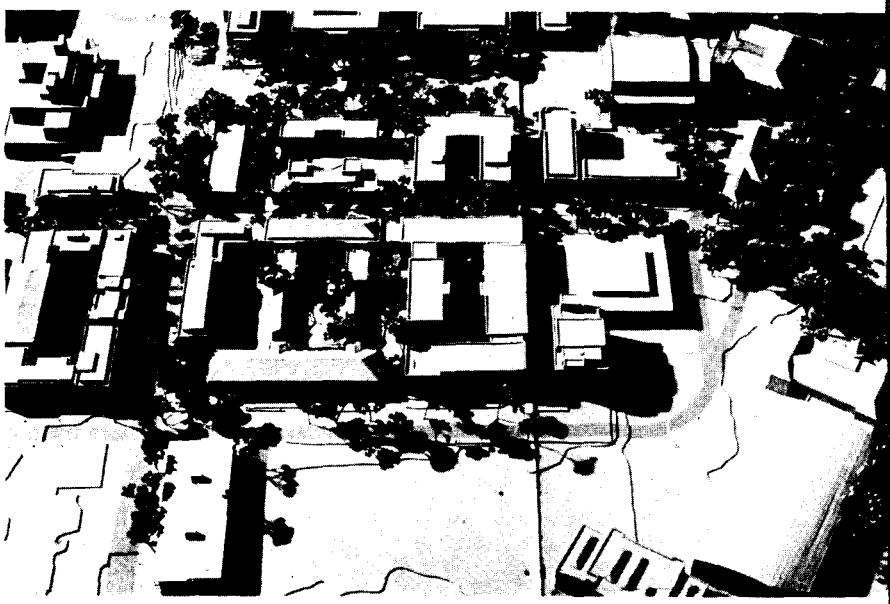
*(continued)*

CENTER ABOVE, Proposed Knoll area construction, view from south. CENTER BELOW, Existing Knoll area, view from south. FAR RIGHT UPPER, Proposed Institute of Technology complex, view from east. FAR RIGHT CENTER, Existing Institute of Technology complex, view from east. FAR RIGHT LOWER, Health Sciences Center, with proposed construction in white. Photograph by Phokion Karas, Melrose, Massachusetts.





# Tomorrow





PRESIDENT MOOS speaks to members of the Legislative Building Commission.

28 in the North Star Ballroom of the St. Paul Student Center to hear the University's requests for building appropriations for the Twin Cities Campus. A separate hearing to consider requests for the Health Sciences Center was held at the State Capitol July 18. The Building Commission also visited each of the University's outstate campuses. Although this article discusses only the plans for the Twin Cities Campus, Dr. Learn stressed that it is "essential to view the University as a system of campuses fully compatible with the other institutions in the state's higher education system."

At the June hearings President Malcolm Moos, Dr. Learn, other members of the administration, and college deans spoke to the legislators about the University's needs, using charts, slides, and models to document the requests. The legislators, under Chairman Roy L. Voxland, directed questions to each speaker.

The University's building request for 1969 is the largest in its history—a total for all campuses of \$133,344,376. The Twin Cities Campus request includes \$24,582,851 for the West Bank, \$30,051,150 for the East Bank, \$27,059,560 for St. Paul, and \$28,318,000 for the Health Sciences Center.

Reasons for the size of the request were cited by President Moos. In the period from 1959 to 1967, he pointed out, enrollment increased 60 percent but space only 37 percent. And a growing proportion of the students are upperclassmen and graduate students, whose space needs are greater because of smaller classes and more independent research projects.

Modern educational techniques often require more than simple classroom facilities with rows of desks, and the new needs are reflected in the request. Also contributing to the size of the request are rising construction costs and the pressure of unfilled portions of previous legislative requests—buildings that were needed when they were requested and are needed even more today.

The legislators, of course, are faced with the difficult responsibility of assigning priorities.

One man who probably worked more hours than anyone else in preparing the request was Mr. Vernon L. Ausen, Director of Space Allocation and Scheduling. After consulting with the deans, he translated their programmatic needs into space needs. A detailed report including maps and descriptions of each proposed building was compiled by Mr. Liguori LeMay of the Department of Plant Services. Student employees of the Planning Office worked late into the night setting up the models in the Campus Club and then dismantling them the next night and moving them to the North Star Ballroom.

The physical planning itself is done by University Planner Hugh Peacock and Assistant Planners Robert Brantingham and Brian Wessel. In addition, Mr. Brantingham said, "We have some fantastic students who really do the work—Jack Albers, Larry Behrendt, Alan Bergman, and Galen Grant." Professional architectural firms are consulted for major complexes like the proposed Knoll area construction and the Health Sciences Center. Advisory Architect Winston A. Close works with the planners and has responsibility for chairing building committees which develop the design of individual buildings in cooperation with the consulting architects.

Besides a knowledge of the educational purposes to be served by each new building, University planners need an understanding of the larger learning experience that comes from creative interaction outside the classroom and outside departmental boundaries. They must plan space for professors to talk informally with their students and for students to get together to eat, socialize, and share views on many subjects. Awareness of relationships between academic disciplines is important in planning for proximity of buildings. (The Law Building, the Communications Building, and the Humanities Office Building, for example, were proposed for the West Bank so that they could be near the social sciences as well as the new O. Meredith Wilson Library.)

Plans must, of course, be based on the best available information about projected enrollment and projected building costs. As part of the comprehensive planning, studies have been made of two areas that affect the life of the campus community—the Traffic and Circulation Study, and the Housing and Related Space Needs Study. The extremes of the Minnesota climate must also be considered in any campus plan, and landscaping is important for esthetic reasons as well as for what grass and trees do in absorbing noise, controlling heat, and cleansing air. A University planner must be knowledgeable in many diverse fields.

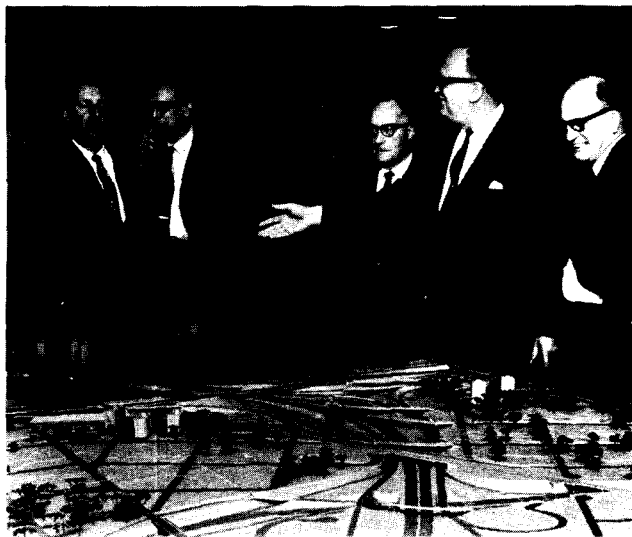
A look at the Twin Cities Campus of 1980 through the eyes of the University planners shows a large campus community divided into what Dr. Learn calls "a group of interrelated subcommunities." Possible 1980 enroll-



ment is 60,000 — with 25,000 on the East Bank, 20,000 on the West Bank, and 15,000 in St. Paul. This actually represents fewer students on the East Bank than presently, but they will be students with greater space needs.

Plans for the East Bank already center on subcommunities — the Knoll area, the Health Sciences Center, and the proposed Institute of Technology complex, each with a character of its own that is distinct from but compatible with the character of the Mall. Plans are to increase the East Bank classroom and laboratory space and at the same time actually increase the open spaces. Mr. Peacock emphasized that the spaces between structures are as important in planning as the structures themselves.

Probably the most exciting proposals for “campus renewal” are in the Knoll area — the area bounded by University Avenue, the River, the north end of the Mall, and Seventeenth Avenue S.E. In this area a number of



LOOKING OVER a model of proposed campus construction are, left to right, University Planner Hugh Peacock, Director of Planning Elmer W. Learn, Vice President for Administration Donald K. Smith, Vice President for Academic Administration William G. Shepherd, Vice President for Educational Relationships and Development Stanley J. Wenberg, and Dean Sherwood O. Berg of the Institute of Agriculture.

old buildings are suggested for demolition by 1980 or 1985 — Pattee Hall, Music Education, Temporary North of Child Development, Norris Gymnasium, Women's Field House, Psychology, the greenhouse, Eddy Hall, Westbrook Hall, Nicholson Hall, Jones Hall, and Temporary South of Folwell. These are buildings that are inadequate for present needs, that are expensive to maintain, and that take up valuable land.

While the architecture in the Knoll area now turns its back on the River, the proposal is to elevate the new

Psychology and Classroom Buildings along River Road above ground level to exploit the riverbank location. The Knoll-area plan would provide three to four times the existing building space on the same land area without loss of green space.

West Bank planning is also built around subcommunities, and the addition of a pleasant area for eating and relaxing will make the West Bank more livable. Livability is a key concept to the University planners, who seek to give even the commuting student a sense of living in the University community. Many students and professors now think of the campus only as a place to perform necessary tasks and then leave, but the goal of the planners is a community of scholars in a comfortable and stimulating environment. One essential step in accomplishing this goal, according to Dr. Learn, is to “reduce our worship of, and slavish dependence upon, the automobile.” People must be considered more important on campus than cars.

The excitement of planning for the University is reflected in Mr. Peacock's description of a worthwhile plan: “It has to have visual images that are recognizable, and it has to be ordered, and it has to have cohesion, and above all it has to have delight.”

## Journalism

*(continued from page 5)*

publications, and several faculty members serve as advisers on business and editorial matters.

In a variety of ways, the School serves Minnesota newspapermen, broadcasters, educators, and students. The Radio-TV News Seminars and the Editors' Short Course for Minnesota editors and press women are held in Murphy Hall, as is the Upper Midwest News Executives Conference, composed of executives from daily newspapers in a five-state area. Minnesota offers special summer programs for high school journalism teachers, and workshops for high school and college editors. The Minnesota High School Press Association, made up of high school editors and their advisers, works with the Journalism School in conducting workshops and press conferences. The offices of the National Scholastic Press Association and the Associated Collegiate Press are in Murphy Hall.

This building in which so much activity is centered was named after Mr. William J. Murphy, editor of the Minneapolis *Tribune* from 1891 until his death in 1918. He bequeathed a portion of his estate to the University of Minnesota for “the establishing and maintaining of a course of instruction in journalism.” For “Murphy Hall students” and “Murphy Hall graduates,” and for their professors, Murphy Hall is more than another classroom building. It is a physical symbol of the bond of pride and unity they share.

# Staff Members Invited to Homecoming 1968

After a week of festivities beginning October 7, Homecoming 1968 will bring a team from Illinois to Memorial Stadium on October 12, when the Minnesota Gophers will try to "Blacken the Illin-Eye." Faculty and staff members are invited to all Homecoming events.

An all-new Lecture Series will begin Monday, October 7, and continue throughout the week. University professors will be joined in the series by guest speakers from the worlds of business, art, and politics. Tuesday's activities will feature music, art, and dance. A program by the Contemporary Dance Studio will be presented in the Main Ballroom of Coffman Memorial Union from noon until 1:00 p.m., and in the evening John Kolstad's Blues Band will entertain guests at the Grand Opening of the Midwest Art Instructors Art Exhibit in Northrop Gallery from 7:00-9:00 p.m. Both events are free and open to the public.

## Campus Fund Drives Held in October

October is the month for campus fund drives in Minneapolis, St. Paul, and Duluth.

Staff members in Minneapolis will contribute to the Consolidated Fund Drive, which includes the United Fund of Hennepin County, the Minnesota Heart Association, and the American Cancer Society. Goal for the combined drive is \$142,228, an increase of \$14,905 over last year. Mr. G. Willard Fornell, Tax Adviser in the Attorney's Office, is Chairman of the drive, and Associate Professor Stephen Barich of Mechanical Engineering is Assistant Chairman.

The almost 700 solicitors will meet in the Main Ballroom of Coffman Memorial Union at 2:30 p.m. October 1 for KICKOFF 68. The drive, which will open October 3 and continue through October 24, will have as its symbol a red button with "I Care" in lower-case white letters.

Homecoming Week — from October 7 through 12 — is the week when about 60 solicitors will ask St. Paul staff members to give to the United Fund of Ramsey County. Chairman of the drive is Assistant Professor Marie H. Christenson, Home Economics Education, and Assistant Chairman is Professor Max O. Schultze of Biochemistry. The goal of \$19,400 is \$1,235 more than last year's goal.

For the United Fund Drive on the Duluth Campus a goal of \$9,250 has been set, \$750 more than last year's goal. Professor Robert L. Heller, Assistant to the Provost, is Chairman of the drive, which will open September 30 and close October 18. Solicitation will be by mail, with each staff member receiving a letter and a pledge card which he is asked to return.

University Relations Representative Richard J. Welsh reported from the Morris Campus and Director Stanley D. Sahlstrom from the Technical Institute at Crookston that neither community will hold a united fund drive this fall. Staff members and student groups on both campuses are likely to be involved in a variety of independent drives.

The Coronation of the 1968 Homecoming Queen will be held in Northrop Memorial Auditorium on Wednesday at 8:00 p.m. Festivities will include a concert by the University Concert Band, the University Chorus, the Men's Glee Club, and special guest entertainment. This event is free with a Homecoming button.

The annual downtown Pep Fest on the First National Bank Plaza will be followed on Thursday noon by a Minnesota Pep Fest Alumni Luncheon in the North Star Ballroom of the Radisson Hotel. Coach Murray Warmath and Athletic Director Marsh Ryman will preview the game, and guest speakers will include University President Malcolm Moos, Alumni President Ken Glaser, Homecoming Chairman Jim Hemak, and the 1968 Homecoming Queen and court. Tickets of \$4.00 per person are available at 205 Coffman Union and at Dayton's. After the luncheon the first Open Football Practice will be held from 2:45-3:20 p.m. in Memorial Stadium.

Tied for first place in the Big Ten last year, the Gophers will be looking for a victory against the Illini on Saturday. The half-time program — "Something Old, Something New, Something U" — will combine the musical talents of the University Marching Band and the Alumni Band.

Chris Montez will entertain at a Victory Concert at 7:30 p.m. in Northrop Auditorium, and the Homecoming Dance with eight big bands will begin at 9:00 p.m. Tickets will be \$4.00 per couple for the combined dance and concert and \$3.00 per couple for the dance alone.

## Recent Staff Publications

Dr. Evelyn Coleman, Associate Professor of German, *Stimmen Aus Dem Studenglas*, Prentice-Hall, Inc.

Dr. Harold C. Deutsch, Professor of History, *The Conspiracy Against Hitler in the Twilight War*, University of Minnesota Press.

Dr. Walter W. Heller, Regents' Professor of Economics, coauthor, *Revenue Sharing and the City*, the Johns Hopkins Press.

Dr. Samuel Krislov, Associate Professor of Political Science, coauthor, *American Government: The Clash of Issues*, Third Edition, Prentice-Hall, Inc.

Dr. Rupert I. Murrill, Associate Professor of Anthropology, *Cranial and Postcranial Skeletal Remains from Easter Island*, University of Minnesota Press.

Dr. Arnold Rose, Professor of Sociology, *Libel and Academic Freedom: A Lawsuit Against Political Extremists*, University of Minnesota Press.

Dr. Joseph Simonson, Senior Lectures and Lectures Advisor, *Come Along to Ethiopia*, T. S. Denison & Co., Inc.

Dr. Leonard Unger, Professor of English, editor, *University of Minnesota Pamphlets on American Writers*, Numbers 67 through 73, University of Minnesota Press.

Dr. Albert van der Ziel, Professor of Electrical Engineering, *Solid State Physical Electronics*, Second Edition, Prentice-Hall, Inc.

# University of Minnesota Calendar

## Oct. 1-15, 1968

### Minneapolis Symphony Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium, 8:30 p.m.

**Friday, October 11 — All orchestral (Tickets \$3.75-\$6.75)**

### Music Department Program

Open to the public without charge

**Friday, October 4, 8:00 p.m. — Bernhard Weiser, pianist; Northrop Auditorium**

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through Monday, October 7 — Etchings by Fred Sauls, Gallery 315**

**Tuesday, October 8 through October — Art of the University's Studio Art Faculty, Galleries 305, 306, 307, and 309**

#### St. Paul Student Center Galleries

Sunday, 12 noon-10:00 p.m.; Monday through Saturday, 7:30 a.m.-10:00 p.m.

**Through Friday, October 11 — "Backgrounds of Modern Paintings" from the National Gallery of Art, Washington, D.C.**

**Wednesday, October 9 through Wednesday, October 30 — Watercolors by Audrey Teeple**

**Friday, October 11 through October — Mixed Media by Donald Devlin**

### Coffman Union Program

**Tuesday, October 8 — Contemporary Dance Studio program; Main Ballroom; no charge**

### St. Paul Student Center Programs

#### Concert

**Wednesday, October 2, 11:30 a.m. and 1:30 p.m. — Dick Whitbeck and his Jazz Band; Rouser Room; no charge**

#### Tour

From St. Paul Student Center

**Tuesday, October 8, 2:00 p.m. — Tour of Betty Crocker Kitchens; no charge**

### Homecoming Concerts

Northrop Auditorium

**Wednesday, October 9, 8:00 p.m. — The University Concert Band and Chorus, the Men's Glee Club, and The Left Banke in concert along with the coronation of the Homecoming Queen (Admission, Homecoming Button)**

**Saturday, October 12, 7:30 p.m. — Singer Chris Montez (Tickets \$4.00 per couple; includes Homecoming Dance at Coffman Union)**

### Special Program

Northrop Auditorium, 7:00 and 9:45 p.m.; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

**Saturday, October 5 — Comedian Bill Cosby (Tickets \$2.50-\$6.00)**

### Convocation

Open to the public without charge

**Monday, October 7, 3:15 p.m. and 8:30 p.m. — United States Air Force Singing Sergeants; Northrop Auditorium**

### Special Lectures

**Wednesday, October 9, 8:00 p.m. — "Family Nutrition Programs in India"; North Star Ballroom; no charge**

**Thursday, October 10, 8:00 p.m. — Lieutenant General Sir John Glubb, "The Middle East — Key to World Power"; Place to be announced**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesday, 9:00 a.m.-9:00 p.m.); Sundays, 2:00 p.m.-5:00 p.m.; open to the public without charge

**Daily during October — Outstanding displays of Minnesota wildlife scenes**

### University Film Society

Museum of Natural History Auditorium, 7:30 and 9:30 p.m.; admission varies with film

**Friday, October 4 — Yo-Yo (France, 1964)**  
**Friday, October 11 — Lola (France, 1961)**

### University Arboretum

Four miles west of Chanhassen on Highway 5; Monday through Friday, open to the public without charge; weekends and holidays, \$.50 per car

**Daily during October — The Arboretum will be open from 8:00 a.m. to sunset**

**Wednesday, October 9, 7:00 p.m. — Class on "Dried Arrangements" (Fee \$2.00 for non-members, \$1.00 for members)**

**Saturday, October 12, 10:30 a.m. — walking tour, originating from shelter; no charge**

### Legislative Issues Meetings

A service of the General Extension Division in cooperation with the Minneapolis Council of Community Councils; 8:00 p.m. at different Minneapolis locations to be announced

**Wednesday, October 2 — Transportation**  
**Wednesday, October 9 — Education**

### Athletic Department Events

#### Home Football Games

Memorial Stadium, 1:30 p.m.; single tickets \$5.50, over-the-counter sale opens Monday, the week of the game, at Cooke Hall and all Dayton's stores

**Saturday, October 5 — Wake Forest**

**Saturday, October 12 — Illinois (Homecoming)**

#### Home Cross Country Meet

University Golf Course; no admission

**Saturday, October 12, 10:00 a.m. — Illinois**

### University Broadcasts

A service of the General Extension Division

Radio KUOM, 770 on the dial

**Mondays, Wednesdays and Fridays, 11:15 a.m. — "American Government and Politics," classroom lecture series with Professor Millard Gieske, Assistant Dean, Graduate School**

**Monday through Friday, 12:00 noon — Midday News**

**Monday through Friday, 1:00 p.m. — "The Afternoon Program," the arts, public affairs, and fine music with Garrison Keillor, Assistant Program Director**

**Tuesdays, 2:00 p.m. — "Library of Congress Lectures and Discussions," with poet James Dickey**

**Thursdays, 2:00 p.m. — "What Must Be Done," a series of discussions seeking solutions to America's urban problems with Elliot Osborne, editor of Newsweek**

**Fridays, 2:00 p.m. — "What Must Be Done . . . Here," a series of programs on human relations problems in Minneapolis and St. Paul**

**Saturdays, 10:30 a.m. — "Institute on Man and Science," with speakers including Paul Martin, Government leader of Canadian Senate, Timothy Costello, deputy mayor of New York, Christian Herter, Jr., Urban Coalition, and others**

**Saturdays, 11:00 a.m. — "University Music," University students perform and discuss their careers in music**

**Saturdays, 2:00 p.m. — "The Saturday Show," a variety of music, conversation, and features with Marvin Granger, Program Director, and Garrison Keillor, Assistant Program Director**

**University Television Hour** KTCA-TV (Ch. 2)  
**Mondays, 9:00-9:30 p.m. — "After High School, What?" with Leonard Barr**

**Mondays, 9:30-10:00 p.m. — "Folio"**  
**Tuesdays, 9:00-9:30 p.m. — "Joyce Chen Cooks"**

**Thursdays, 9:30-10:00 p.m. — "Town and Country" with Ray Wolf**

# University of Minnesota Calendar

## Oct. 16-31, 1968

### Minneapolis Symphony Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium, 8:30 p.m.

**Friday, October 18 — Ruggiero Ricci, violinist (Tickets \$3.00-\$5.75)**

**Friday, October 25 — Alexis Weissenberg, pianist (Tickets \$3.00-\$5.75)**

#### Thursday Concert Series

Northrop Auditorium, 8:00 p.m.

**Thursday, October 24 — Alexis Weissenberg, pianist (Tickets \$3.00-\$5.75)**

**Thursday, October 31 — Igor Oistrakh, violinist (Tickets \$3.00-\$5.75)**

#### Sunday Concert Series

Northrop Auditorium, 4:00 p.m.

**Sunday, October 27 — Laurindo Almeida, guitarist (Tickets \$2.25-\$4.75)**

### University Artists Course

Northrop Auditorium, 8:30 p.m.; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

#### Masterpiece Series

**Wednesday, October 16 — Roberta Peters, coloratura soprano (Tickets \$2.00-\$5.00)**

**Wednesday, October 23 — St. Paul Chamber Orchestra; Leopold Sipe conducting; David Bar-Illan, piano soloist (Bonus concert for Masterpiece Series patrons only)**

### Music Department Programs

Open to the public without charge

**Thursday, October 17, 8:00 p.m. — Gustav Leonhardt, harpsichordist; Mayo Memorial Auditorium**

**Thursday, October 22, 11:15 a.m. — Rolf Ermeler, flutist, and Maria Ermeler Lortzing, pianist; Scott Hall Auditorium**

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through October — Art of the University's Studio Art Faculty, Galleries 305, 306, 307, and 309**

#### St. Paul Student Center Galleries

Sunday, 12 noon-10:00 p.m.; Monday through Saturday, 7:30 a.m.-10:00 p.m.

**Through October — Mixed Media by Donald Devlin**

### University Theatre

#### Studio Theatre

Studio Theatre, Scott Hall; tickets (\$2.00, students \$1.25) available at Scott Hall Box Office

**Tuesday, Wednesday, Thursday, and Saturday, October 22, 23, 24, and 26, 8:00 p.m.; Friday and Sunday, October 25 and 27, 3:30 p.m. — Play to be announced**

### St. Paul Student Center Programs

#### Films

**Friday, October 18, 8:00 p.m. — "Texas Across the River" and "Freeway Phobia"; North Star Ballroom; admission \$.75**

**Wednesday, October 30, 7:30 p.m. — "Great Bear Lake," "Appointment in Arusha," and "History of America's Cup"; Rouser Room; no charge**

#### Demonstration

**Wednesday, October 23, 8:00 p.m. — Karate demonstration; Rouser Room; no charge**

### Special Lecture

**Tuesday, October 22, 11:15 a.m. — Thanat Khoman, Foreign Minister of Thailand; Coffman Union Main Ballroom; topic to be announced**

### University Film Society

Museum of Natural History Auditorium; 7:30 and 9:30 p.m.; admission varies with film

**Friday, October 18 — On the Edge (USA, 1968)**

**Friday and Saturday, October 25 and 26 — Three-Penny Opera (Germany, 1931)**

### University Arboretum

Four miles west of Chanhassen on Highway 5; Monday through Friday, open to the public without charge; weekends and holidays, \$.50 per car

**Daily during October — The Arboretum will be open from 8:00 a.m. to sunset**

**Wednesday, October 16, 7:00 p.m. — Class on "Preparing the Yard for Winter" (Fee \$2.00 for non-members, \$1.00 for members)**

### Legislative Issues Meetings

A service of the General Extension Division in cooperation with the Minneapolis Council of Community Councils; 8:00 p.m. at different Minneapolis locations to be announced

**Wednesday, October 16 — Welfare**

**Wednesday, October 23 — Law Enforcement**

### Athletic Department Event

#### Home Cross Country Meet

University Golf Course, no admission

**Saturday, October 26, 10:30 a.m. — Drake**

#### Football Game

Memorial Stadium; 10:00 a.m.; admission

**Saturday, October 26 — Freshman Intra-Squad game**

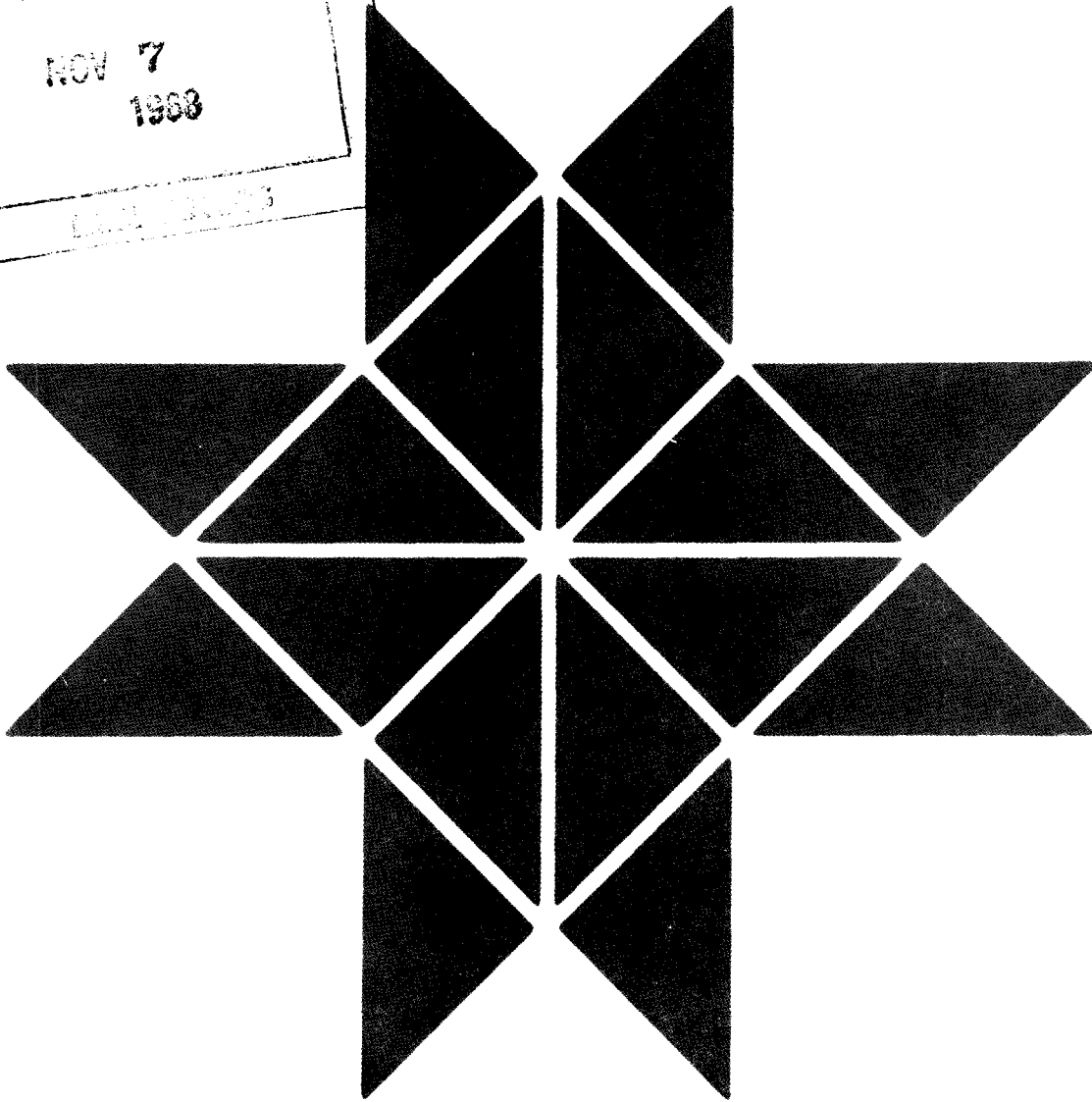
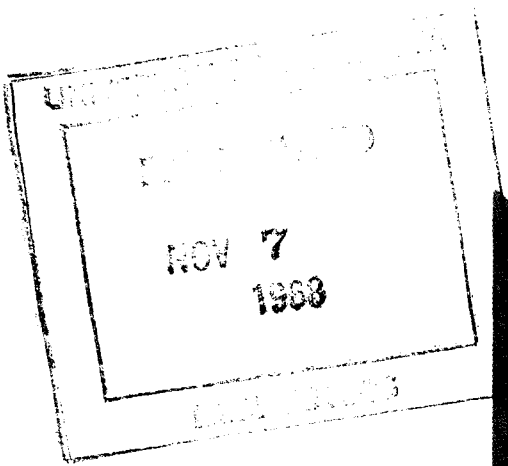
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THE UNIVERSITY STAFF MAGAZINE NOV. 1968

# Campus Telephones



If dial telephones had never been invented, there would not now be enough working-age women in the United States to man the switchboards. And if the telephone system of the University of Minnesota were not being constantly changed and expanded to meet new needs and utilize technological advances, vital communication within the University would have broken down long ago.

For the staff members who serve the University's communication needs, the past year has been the busiest since University telephones were converted to centrex in 1962. After months of preparation, St. Paul telephones were added to the University's 373-exchange September 16, and telephones in the Medical Center will be added November 18.

With all departments on the Twin Cities Campus united in one telephone system, any staff member will be able to reach any other simply by dialing the last five digits of the seven-digit Centrex number. Previously, calls within the Minneapolis (373-) exchange and the St. Paul (647-) exchange were placed by dialing only the last four digits, but calls from one exchange to another required the dialing of "9" followed by all seven digits.

Five-digit dialing has freed an additional 3,000 numbers immediately and will allow for flexible growth. Under four-digit dialing all numbers beginning with "0," "1," and "9" had to be ruled out, because these digits signal for an operator or an access code, but with five digit dialing any digit may be used in the second position. Change to five-digit dialing would soon have become necessary even without the addition of St. Paul and Medical Center numbers.

Advantages of uniting all of the University's 8,000 working station numbers in one exchange are clear. Most obviously, it is faster to dial five digits than eight. The irritation of wrong numbers will be reduced, because there will not be the problem of numbers which are identical except for a prefix. And the "one-university" image of the Twin Cities Campus will be enhanced.



*UPPER, Mrs. Carol Ostrow listens in as Mrs. Frieda Johnson handles a call for information. Other University operators are, left to right, Mrs. Edith Cloutier, Mrs. Florence Sandness, Mrs. Ruth Rossman, and Mrs. Florence Wiggins. LOWER, Mrs. Hazel Foss watches Mrs. Mary Villella at the old-fashioned Medical Center switchboard soon to be replaced.*

Maureen Smith, Editor

Joan Friedman, Associate Editor

#### ADVISORY GROUP

William L. Nunn, Director / William T. Harris, Jr., Assistant Director / Advisory Committee: Members of the University Public Information Council. The MINNESOTAN is published monthly October through May by the Department of University Relations, 220 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Subscription-free copies mailed to full-time staff members. Non-staff member subscription rate: \$2.00 per year, \$3.00 per copy. Copies of each issue on sale at Coffman Memorial Union Bookstore. Second class postage paid at Minneapolis, Minnesota.

ON THE COVER is the new logo of the Health Sciences Center. Symbolism is explained in the story beginning on page 5.

minnesotan

Vol. 19 No. 2

# United in Single Centrex System

Greatest impact of the change will be felt in the Medical Center, where a manual switchboard system is being replaced.

Last year, according to Mr. Robert Mackey, Principal Engineering Assistant in the Department of Plant Services, callers to the Medical Center switchboard received more than 2,500 busy signals a week. This overloaded switchboard has placed a heavy burden on the operators and has failed to serve the public adequately.

Predictions based on an analysis of incoming calls during the past year are that 70 percent of all calls to the Medical Center will be dialed directly soon after conversion to Centrex. Those callers who need information or assistance will, of course, be able to reach a University operator.

Mrs. Carol Ostrow, Principal Telephone Operations Supervisor, has been working with the regular University operators to prepare them for the handling of Medical Center calls. A hot line between the two sets of operators — those in Morrill Hall and those in the Medical Center — will allow instant communication in emergencies.

Since the conversion of University telephones to Centrex, operators have been freed from handling the most routine calls. Opening each call with the words "University Information," an operator is a source of knowledge about the University. In the way that she responds to questions, she represents the University to callers from outside.

Eight full-time and several part-time operators work in a quiet office in 311 Morrill Hall to provide service twenty-four hours a day, seven days a week. Besides supervising, Mrs. Ostrow uses a pagemaster to locate University maintenance men in emergencies.

For everyone on the Twin Cities Campus and for callers from outside, the period of change will inevitably bring some confusion. But instructions have been sent to all staff members whose numbers have been changed, and efforts are being made to get the new numbers to people outside the University. Doctors are sending post-cards to patients and others who call them regularly.

Staff members of the Department of University Relations have been working overtime to get the *Student-Staff Directory* out on time. Although the big job of publishing the *Directory* has been made even bigger because of all of the changes in telephone numbers, it is hoped that the books will be delivered to University Bookstores on November 15. Mrs. Barbara Wills is editor of the *Directory*.

The Minneapolis Telephone Directory will be distributed two days before the Medical Center numbers convert and will carry the new numbers for those major units of the Twin Cities Campus which are listed. A new St. Paul Directory will not appear until summer, but information operators will have new numbers. When one of the

old numbers is dialed, a recording will inform the caller that he has reached a disconnected number.

Those staff members who were at the University before the change to Centrex remember that at certain times of the day — especially shortly before noon — it was almost impossible for a caller to reach the University. Even when he got through to the University operator, the particular extension he wanted was often busy. University callers trying to get an outside line were similarly frustrated, but under Centrex they are assured of a free line when they dial "9."

For many of the same reasons that led to the conversion to Centrex on the Twin Cities Campus, the Duluth Campus will change to Centrex in September, 1969.

Coordinating the latest change for the Twin Cities Campus has been Mr. William Cook, Assistant to Mr. Roy V. Lund, Director of Plant Services. Mr. Mackey has been responsible for the Medical Center telephone conversion, and Engineering Assistant Delbert Johnson has handled details for the St. Paul changes. Miss Joanne Brobakken, Senior Account Clerk, processes all utility bills and is preparing for the addition of Medical Center calls to her telephone bill.

A committee within the Medical Center has been preparing for the changes there, and Mrs. Hazel Foss, Principal Telephone Operations Supervisor, has delayed her retirement in order to help with the conversion.

A change for the University also means additional work for the people at Northwestern Bell. Committees have been meeting at least twice a month to plan for the change, and a large new investment in equipment has been made to meet the University's needs. Mr. Albert Meister is the Account Supervisor from Northwestern Bell whose full-time job is to serve the University.

The Northwestern Bell building at Seventh Avenue and Sixth Street S.E. is the center for the 331- exchange as well as for the University's 373- exchange. The modern computer-like equipment has just one function, but a crucial one — to "switch" calls and establish a connection.

Anticipating future changes for the University's telephones, Mr. Cook said, "Growth has been easy within Centrex." New devices are constantly being developed to make the telephone even more useful. Already it is possible for a University administrator to give dictation by telephone for his secretary to transcribe from a recording, and for a researcher to phone a program into a University computer. Other conveniences, such as an electronic switching system (ESS), are perhaps ten or twenty years in the future. (In this system one can dial into his own telephone another number to which his calls may be diverted.)

Always growing, the University's telephone system is now large enough to serve a city the size of Fergus Falls.

# Four New Regents' Professors Named

Four University of Minnesota professors have been awarded the highest honor the University can give to members of its faculty—the Regents' Professorship.

At the Opening Convocation on September 26, the new titles of distinction were given to Regents' Professor of Genetics Ralph E. Comstock, Regents' Professor of Psychology Paul E. Meehl, Regents' Professor of Mathematics James B. Serrin, Jr., and Regents' Professor of Medicine Cecil J. Watson.

University President Malcolm Moos presented the new Regents' Professors with citations and praised them as "inquiring scholars" and "outstanding citizens of the University community."

Assisting President Moos in the presentation ceremony were Vice President William G. Shepherd, Academic Administration, and members of the Board of Regents and the University of Minnesota Foundation.

Created by the Board of Regents in 1965, the Regents' Professorship was first bestowed upon five professors at commencement exercises in June, 1966.

They are Regents' Professor of Mechanical Engineering Ernst R. G. Eckert, Regents' Professor of Anthropology E. Adamson Hoebel, Regents' Professor of Physics Alfred O. C. Nier, Regents' Professor Emeritus of English Allen Tate, and Regents' Professor Emeritus of Surgery Owen H. Wangenstein.

A second group of five Regents' Professors was named at the March, 1967, commencement exercises.

They are Regents' Professor of Chemical Engineering Neal R. Amundson, Regents' Professor of Philosophy Herbert Feigl, Regents' Professor of Economics Walter W. Heller, Regents' Professor of Medicine Wesley W. Spink, and Regents' Professor of Physiology Maurice B. Visscher.

The Board of Regents voted each award upon the recommendation of a carefully selected ad hoc committee. Regents' Professors are chosen on the basis of the scope and quality of their scholarly or artistic contributions, the quality of their teaching, and their contributions to the public good.

Once designated as a Regents' Professor, the faculty member holds the title for as long as he remains at the University. During his tenure at the University he receives a \$5,000 gift annually from the University of Minnesota Foundation.

Visible sign of the honor is a sterling silver medallion suspended from a maroon and gold ribbon and worn over academic costume. The medallion is embossed with the Regents' Seal and the words, "In Recognition of Academic Distinction." Wearers of the medallion hold a position at the head of all University academic processions.

Regents' Professor of Genetics Ralph E. Comstock is regarded as one of the top men in his field both nationally and internationally, a reputation stemming from his contributions in both research and teaching.

Professor Comstock, in association with Professor H. F. Robinson, is credited with originating in 1949 a breeding method now used widely for both plant and animal breeding. The significance of the method, known as reciprocal recurrent selection, is that it enables plant and animal breeders to develop the genetic structure of two populations, so that when they are crossed, the maximum-performance hybrid is obtained.

All of Regents' Professor Comstock's academic degrees were earned at the University of Minnesota—Bachelor of Science, Master of Science, and Doctor of Philosophy. In 1957 he returned to the University as Professor of Animal Husbandry in charge of animal breeding research.

With the formation of the college of Biological Sciences in 1966, Professor Comstock became head of the newly created Department of Genetics.

Regents' Professor of Psychology Paul E. Meehl is a faculty member in both the Department of Psychology and the Department of Psychiatry and Neurology.

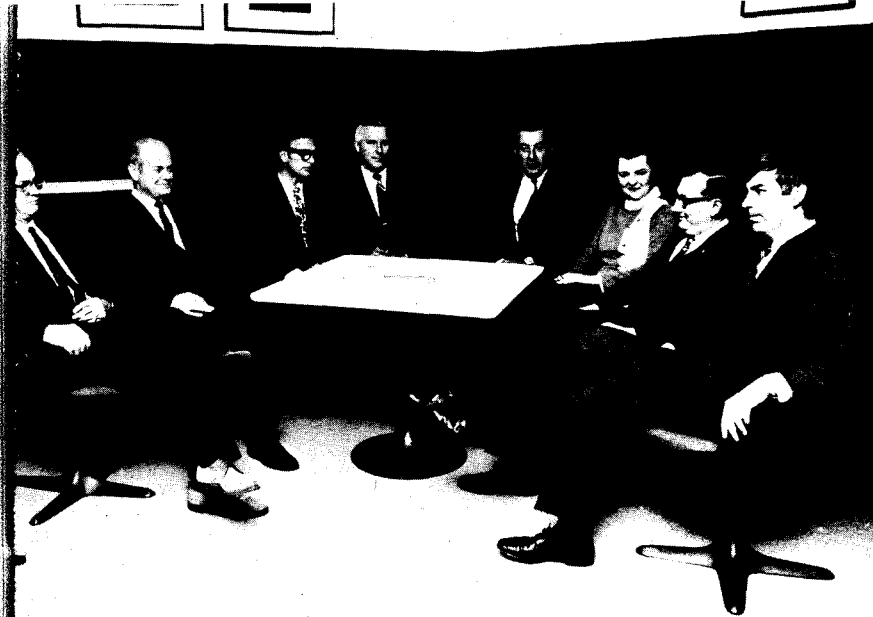
He has been nationally recognized for his contributions to these fields, particularly in the areas of personality theory, measurement theory, and clinical theory.

*(continued on page 10)*



UPPER LEFT, Regents' Professor of Genetics Ralph E. Comstock. LOWER LEFT, Regents' Professor of Psychology Paul E. Meehl. UPPER RIGHT, Regents' Professor of Medicine Cecil J. Watson. LOWER RIGHT, Regents' Professor of Mathematics James B. Serrin, Jr.





*COUNCIL of Health Sciences Deans and Directors, left to right, Dr. Gaylord W. Anderson, Director of the School of Public Health; Dean Lawrence C. Weaver, College of Pharmacy; Dean Robert B. Howard, College of Medical Sciences; Dr. H. Mead Cavert, Associate Dean and Executive Director of the Medical School; Dean William T. S. Thorp, College of Veterinary Medicine; Dr. Edna L. Fritz, Director of the School of Nursing; Dean Erwin M. Schaffer, School of Dentistry; and Mr. John H. Westerman, Director of University Hospitals.*

# ***Health Sciences Center Formed***

To educate the health professionals who will still be serving Minnesotans in the year 2000 — to prepare them for growing needs and changing patterns of health care — seven administrative units representing health disciplines have united under the name of the Health Sciences Center.

The name reflects the unity of purpose. Joined under the new title are the School of Dentistry, the College of Pharmacy, the College of Veterinary Medicine, and the four constituent units of the College of Medical Sciences — the Medical School, the School of Nursing, the School of Public Health, and University Hospitals.

Administrative relationships of these units have not been changed. At the time that the formal alliance was approved by the Board of Regents last April, Dr. Robert B. Howard, Dean of the College of Medical Sciences, stressed that if there are future changes in these relationships they will come "only after detailed consideration, discussion, and participation by the faculties."

Symbol of the alliance is the new logo which the *Minnesotan* carries on this month's cover. Combining several ideas, the logo is formed in a traditional symbol for medicine, a cross. Four converging arrows represent the four major administrative units of the health sciences.

The central diamond is divided into eight parts, for the health sciences units and the associated health professions. And each vertex of the cross forms an "M" for Minnesota.

But more important than a name or a symbol is the spirit of shared purpose shown by the deans and the faculties in planning for new programs and facilities.

More than 100 faculty members from the health disciplines have served on committees and subcommittees to plan for the needed physical facilities that will allow the Center to maintain and expand its programs.

The planning process began more than four years ago. In September, 1964, the Board of Regents asked the Hill Family Foundation to support a study of health man-

power needs in the Upper Midwest. In the same year, President O. Meredith Wilson appointed a University Long-Range Planning Committee for the Health Sciences.

Acting upon the Hill recommendations and preliminary reports of the Planning Committee, the Regents in 1966 proposed a \$54 million physical development program. The Regents asked for and received from the 1967 Legislature \$650,000 for land purchase and \$500,000 to finance preliminary physical planning.

A building request of \$28,318,000 has been presented to the Legislative Building Commission and will be considered by the 1969 Legislature. An additional \$35 million will be requested of the 1971 Legislature. The total exceeds the 1966 figure because of inflation and the addition of Pharmacy to the building program.

The legislators have been told that at least half of these funds will be sought from federal and other sources.

The Architects Collaborative Inc. of Cambridge, Massachusetts, has been commissioned to head a team of architects to design a Health Sciences complex that combines utility, accessibility, and architectural distinction. Twin Cities firms which complete the planning team are The Cerny Associates Inc., Minneapolis; Hammel, Green & Abrahamson Inc., St. Paul; and Setter, Leach & Lindstrom Inc., Minneapolis.

These architect-planning consultants are working within a framework of established criteria for their plans. Among the guiding principles, as outlined by University Director of Planning Elmer W. Learn, has been a determination that "because of the great investment from public and private sources in existing facilities, the plan must conserve and enhance the desirable characteristics of the present Health Sciences Center."

The plan must be adequate in scale to allow for substantial enrollment increases in all areas. But Dr. Learn emphasized that expansion in student numbers is only part of the story; there is a critical need for more space even to maintain present programs.

Maximum potential for adaptability is another criterion; the one sure thing about health needs of tomorrow is that they will differ from those of today.

The plan must "encourage interaction among persons in all Health Sciences programs" and "enhance the involvement of the Health Sciences with the rest of the University." This is consistent with total planning for the University, with the goal of building the Twin Cities Campus around "a group of interrelated subcommunities."

For the Health Sciences Center as for any other unit of the University, Dr. Learn said, "The physical facilities serve rather than dictate academic activity." Because of the desire on the part of the health sciences faculties to work more closely together, the proposed building complex is planned as a "well-designed, integrated physical plant."

This desire to work together is expressed by deans, professors, and students. There is a growing awareness that, as Dr. Howard said, "The delivery of health care is clearly a team effort" and that it is therefore "reasonable and compelling" that the education of future health professionals should prepare them for this team approach.

Dean Lawrence Weaver of the College of Pharmacy said that although there have been interdisciplinary programs in the past, the formation of the Health Sciences Center provides a mechanism to make this cooperation easier.

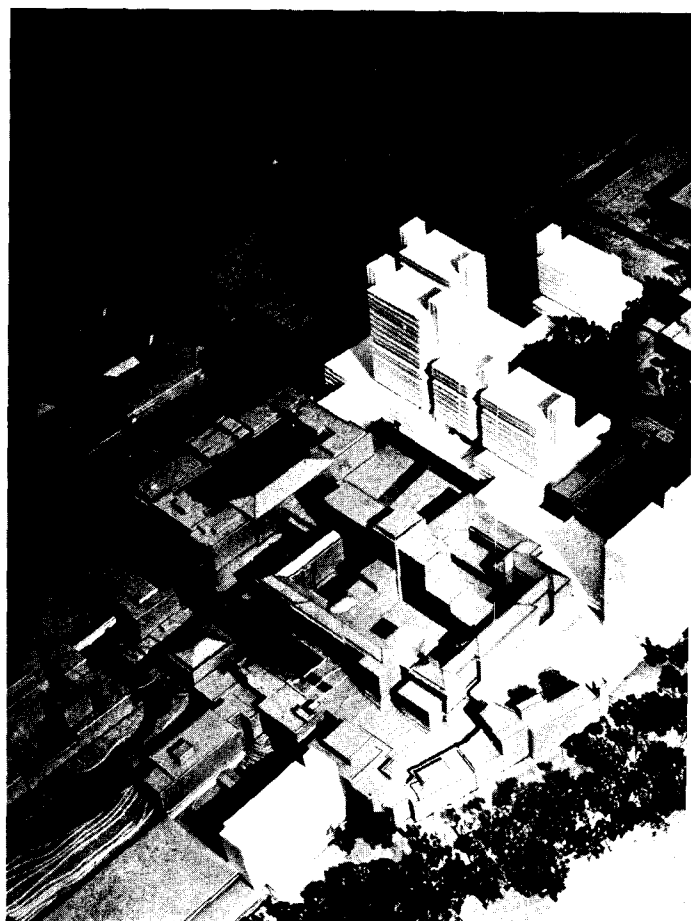
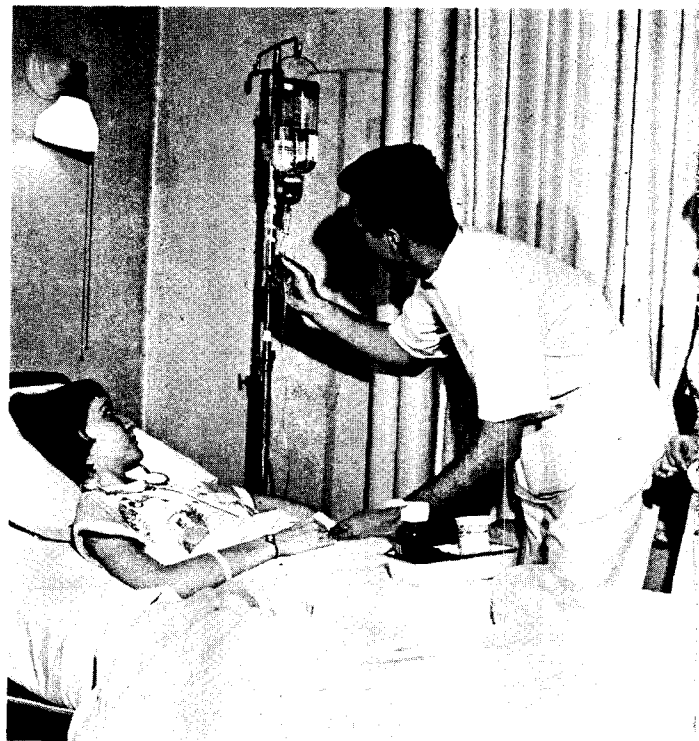
During spring quarter of 1968, all fifth-year pharmacy students were in the wards of University Hospitals, participating in the first clinical pharmacy program in the United States. The contact with patients is consistent with the College of Pharmacy's recent decision to make its program more patient-oriented. And the contact with other health professionals in the wards prepares the future pharmacist for his role as drug-use-control specialist on the health care team.

Mr. John Westerman, Director of University Hospitals, said that "more effective coordination of the educational programs among all units of the health sciences" will "enable us to be more effective in the delivery of health care." He added that new patterns of health care call for experimentation with "new ways of organizing health professionals" and "this experimentation by definition should go on in a university hospital."

The necessity for "increased communication and cooperation among the health disciplines" was cited by Dr. Edna L. Fritz, Director of the School of Nursing, as she welcomed the title Health Sciences Center and "the opportunities that will be available for interdisciplinary planning for effective utilization of all health manpower."

In expressing his approval of the alliance of health disciplines, Dr. Gaylord W. Anderson, Director of the School of Public Health, added that a School of Health embracing many health disciplines was first envisioned during the administration of President William Watts Folwell almost 100 years ago. The failure to unite therapeutic and preventive medicine at that time was a disappointment to President Folwell and to Dr. Charles Hewitt, Professor of Public Health.

"We strongly endorse this effort" was the comment of Dr. Mellor Holland, Assistant Dean of the School of Dentistry. And the Dean of the School, Dr. Erwin M. Schaffer, offered specific examples of interdisciplinary programs of comprehensive health care.

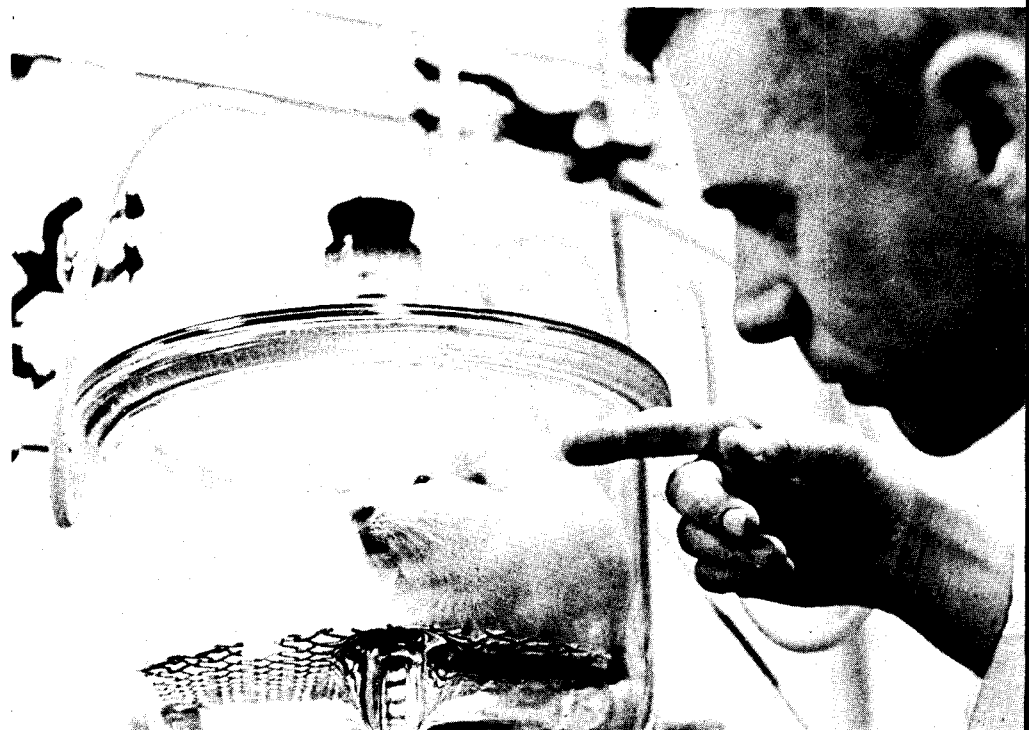
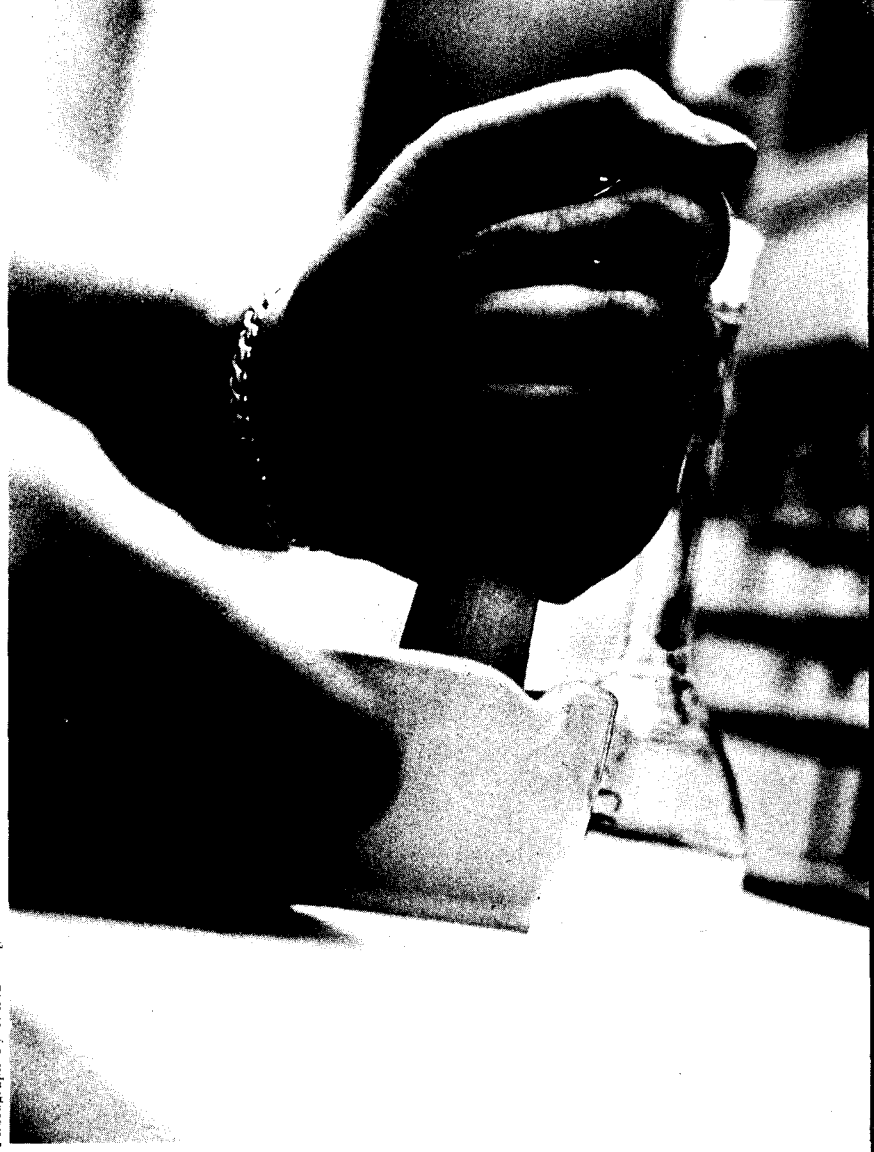


Photograph by Phokion Karas



*LOWER LEFT, the Health Sciences complex, with proposed construction in white. Other pictures represent the various health disciplines.*

Photograph by Linda Berglind



In the cleft palate program, a whole group of specialists work together "to plan the overall health care of the cleft palate child." Specialists in dentistry — orthodontists, prosthodontists, pedodontists, periodontists, dental hygienists, and oral geneticists — work in cooperation with plastic and pediatric surgeons, pediatricians, otolaryngologists, and speech therapists.

Another joint program is the maxillo-facial program. Dr. Arthur Bulbulian, a maxillo-facial prosthodontist who teaches graduate students how to replace facial parts lost in accidents or because of cancer surgery, works

closely with the Department of Surgery of the College of Medical Sciences. In some maxillo-facial cases, a psychiatrist and a speech therapist join the health care team.

A doctor of veterinary medicine is not a member of the human health care team in the same way that a physician or a pharmacist is, but Dean William T. S. Thorp of the College of Veterinary Medicine reviewed the contributions of veterinary medicine to human health.

Veterinary medicine is concerned with "safeguarding the health of the food-producing animals" and with preventing the transmission of diseases from animal to man. In addition, many of the most prevalent and serious human diseases have counterparts in animals, and vital medical research which cannot be conducted on man may be undertaken on animals. The veterinarian is ideally qualified to insure the humane treatment of the animals used in research.

Interdisciplinary programs mean better care for the patient, a drawing together of all available resources to meet his total health needs. Concern for the patient is primary; always in health care, Dr. Holland said, "the dignity of the patient needs to be maintained."

Equally important, the team approach to health care is one way to meet the growing health manpower needs. These needs are great, but the problem may be, as Mr. Westerman said, less a problem of total manpower than of the way that manpower is used.

Physicians and dentists cannot do their job alone. Increasingly they are coming to depend on the auxiliary personnel — dental assistants, dental hygienists, medical technologists, occupational therapists, physical therapists, radiologic technologists, vocational rehabilitation counselors.

The Health Sciences Center has programs for all of these health professionals, and programs are being developed for biomedical data technologists, electroencephalography technicians, inhalation therapists, and medical artists and photographers.

Some of the duties now performed by physicians and dentists can be assumed by these auxiliary personnel. To realize the maximum potential of the allied professionals, medical and dental students need training and experience in new ways of utilizing them. The team approach to health care can succeed when each member of the team is aware of what each other member can do.

Increased emphasis on prevention is another way of reducing the gap between supply of health professionals and demand for services. Treatment of an individual, as Dr. Holland pointed out, is helpful to that individual but represents no actual gain in a race against disease. Preventive measures can help many people at once and make it unnecessary for them to seek treatment.

More effective utilization of health professionals and more attention to preventive medicine can help to solve the manpower problem. But there is still a need to increase the number of students preparing for health careers. If plans for expansion are approved, enrollment in all areas of the Health Sciences Center will increase from 3200 at present to 5200 by 1973 and more than 7000 by 1985.

The projected 1973 enrollments represent implementation of the Hill recommendations to expand the entering



medical class from 160 to 200 as rapidly as possible, to expand the entering dental class from 110 to 150, and to provide for commensurate increases in nursing, public health, and the allied health sciences.

The Hill report also called for a strengthening of the skills and attitudes relevant to the responsibility of personal and family physicians. Dr. Benjamin F. Fuller, Director of the new Division of Family Practice and Community Health, explained that "from the point of view of the patients there is a shortage of physicians to whom they can turn in order to get continuing advice over a long period of time."

In the 1930's, 85 percent of all medical students went into practice after internship; today it is fewer than 15 percent. In an age of specialization, the Division is preparing a program in which family practice will itself be a specialty with a discrete area of expertise.

The family specialist of the future, with a background that includes psychiatry, pediatrics, and internal medicine, will be uniquely qualified for the role of first contact physician. In addition, he will be knowledgeable about the resources available to him from the entire health manpower pool.

Another concern of the Division of Family Practice and Community Health is the difficulty of rural communities in obtaining physicians. Studies of the problem are in progress, but one possible solution is to extend cooperative relationships among health professionals over broad service areas. This would meet the health profession's need to have daily contact with other health professionals.

Needs of rural communities are also a concern of the School of Dentistry's Division of Human Ecology. This September, fourth-year dental students spent up to one week as assistants to "host" dentists in twelve rural Minnesota towns. The program was designed to make students more aware of the needs and opportunities for rural practice.

Equally critical are the health care needs of core city areas. The Community University Health Care Center (CUHCC) serves approximately 1,500 children from some 500 families in an impoverished Minneapolis area. According to the project director, Dr. Edward DeFoe, Associate Professor of Pediatrics, a concerted effort is being made to treat medical ailments and social-psychological ills together.

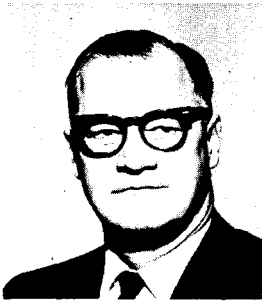
For students, CUHCC provides a real-life training experience and a pattern of health care that is likely to become more common. Professionals from many health disciplines work together in the Center, and nurses have a redefined role of coordination and liaison between the patient and the specialist staff. Doctors are able to concentrate on medicine.

The rising need for health professionals is in many ways a success story, a story as much of health as of sickness. More and more people now regard good health as a right, not a privilege. People who live longer need care over a longer period of time. And with each new medical discovery, patients who once had no hope are seeking treatment.

Whatever the explanation for the growing needs, they are needs which the Health Sciences Center has a commitment to fill.



# Dr. Harry Hall Appointed Regent



Dr. Harry B. Hall of Edina was named by Governor Harold LeVander to the University of Minnesota Board of Regents on September 13, filling the at-large position on the Board of Regents created by the death of Dr. Charles W. Mayo on July 28.

Regent Hall, an orthopedic surgeon, is a 1935 graduate of the University of Minnesota

Medical School. He received his Master's Degree of Science in Orthopedic Surgery from the University in 1942.

Associate Chief of Staff at Gillette State Hospital for Crippled Children in St. Paul, Dr. Hall has been a Clinical Professor in Orthopedic Surgery at the University of Minnesota since 1956.

Dr. Hall is former Chief of Staff at Fairview Hospital and Fairview Southdale Hospital. He is currently Chairman of the Governor's Blue Ribbon Committee for Review

of State Mental Hospitals.

He is Medical Coordinator on the Governor's Council of Health, Welfare and Rehabilitation and a member of the Planning Agency for Metropolitan Hospitals.

Regent Hall served for three months with Project HOPE in Saigon during 1962 and also served as medical consultant to the Presbyterian Hospital in Taiwan in October of 1967.

He is married and the father of four children.

Governor LeVander commented at the time of the appointment, "Dr. Hall has unusual talents and experience which uniquely qualify him to assist in the solutions of problems confronting our great University."

Regent Mayo was elected to the Board of Regents in 1951 and named chairman in 1961, a position he held until 1967.

As the *Minnesotan* went to press, a vacancy on the Board of Regents still existed, following the death on September 8 of Regent Herman F. Skyberg of Fisher, who was elected to the Board of Regents in 1949 as a representative of the seventh Congressional District.

## Regents' Professors

(continued from page 4)

"Professor Meehl is viewed by our bright students as one of our most stimulating instructors. In addition, his research productivity across several domains of psychology has been extremely high," said Professor John G. Darley, Chairman of the Psychology Department.

Another University alumnus, Regents' Professor Meehl was a *summa cum laude* graduate of the University in 1941 and received his Doctor of Philosophy degree in psychology at Minnesota in 1945. He has been a member of the Minnesota faculty since 1941.

He served from 1951 to 1957 as Chairman of the Psychology Department.

Regents' Professor of Mathematics James B. Serrin, Jr., is recognized as an international authority both in the field of partial differential equations and in the field of continuum mechanics.

At the time Professor Serrin received his Ph.D. degree from Indiana University in 1951, his doctoral dissertation solved a problem which had interested mathematicians for years.

His solution involved applying a general mathematical principle, known as the maximum principle in partial differential equations, to an analysis of hydrodynamic flows having free boundaries.

Regents' Professor Serrin's recent work in minimal surface equations is one of the most significant advances of the last 50 years on this classical problem.

Professor Serrin receives more invitations to lecture at symposia, congresses, and conferences than he can

possibly accept. In the past year he lectured at the Universities of Edinburgh, Manchester, Exeter, Cambridge, Freiburg, London, Bristol, Oxford, Paris, Newcastle, Sussex, Glasgow, and Dundee.

Regents' Professor Serrin joined the Minnesota faculty in 1954. According to students and colleagues, his lectures are famous as models of exposition.

Regents' Professor of Medicine Cecil J. Watson is one of the nation's leading teachers of internal medicine and is known especially for his work in the treatment and study of liver disease and the study of bile pigments.

During World War II, Dr. Watson was associate director of the health division of the "Metallurgical Laboratory" — code name for the Atomic Bomb project at the University of Chicago. He was responsible for much of the medical research for the entire Manhattan project.

Regents' Professor Watson graduated as an M.D. from the University of Minnesota in 1926 and received a Ph.D. in 1928.

Dr. Watson became Director of the Division of Internal Medicine in 1936 and Head of the Department of Medicine in 1943. He resigned as Chief of Medicine in 1966 to become Director of the University's Professorial Unit in Internal Medicine at Northwestern Hospital.

Dr. Watson was named a Distinguished Service Professor by the University in 1961. Because this award carries an annual gift of \$5,000 from the Minnesota Medical Foundation, Dr. Watson will not receive an additional sum as a Regents' Professor.

# University of Minnesota Calendar

## Nov. 1-15, 1968

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium, 8:30 p.m.

**Friday, November 1** — Igor Oistrakh, Violinist (tickets \$3.00-\$5.00)

**Friday, November 8** — Minnesota Orchestra Soloists (Tickets \$3.00-\$5.75)

#### Sunday Concert Series

Northrop Auditorium, 4:00 p.m.

**Sunday, November 3** — Music of Cole Porter (Tickets \$2.25-\$4.75)

### University Artists Course

Northrop Auditorium, 8:30 p.m.; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

#### Masterpiece Series

**Wednesday, November 13** — Obernkirchen Children's Choir (Tickets \$2.00-\$5.00)

#### Celebrity Series

**Saturday, November 2** — John Gary, Baritone (Tickets \$2.00-\$5.00)

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday 2:00-5:00 p.m.; Monday through Friday, 8:30-4:00 p.m.

**Wednesday, November 6, through November** — Paintings by Jerome Hill

**Wednesday, November 6, through Friday, November 15** — Photography by Don Paden

**Friday, November 1 through November** — Selections from the Permanent Collection

#### St. Paul Student Center Galleries

Monday through Saturday, 7:00 a.m.-11:00 p.m.; Sunday, 12 noon-11:00 p.m.

**Friday, November 1, through Thursday, November 14** — Mixed Media by Donald Devlin; Second Floor Gallery

**Friday, November 1, through Friday, November 15** — Oils by Frances Christianson; Rouser Room Gallery

**Thursday, November 14 through November** — Oils by Gordon Martenson, State Fair Winner '67

### University Theatre

#### Scott Hall Auditorium Series

Scott Hall Auditorium; Thursday and Sunday, 3:30 p.m.; Thursday and Friday, 8:00 p.m.; Saturday, 7:00 and 10:00 p.m.; general admission \$2.00, students \$1.25

**Friday, November 1, through Sunday, November 10** — "A Flea in her Ear" by Georges Feydeau

#### Young People's Theatre

Crawford-Livingston Theatre, St. Paul, 2:00 p.m.  
**Sunday, November 10** — "The Royal Pardon"

### Music Department Programs

Open to the public without charge

**Monday, November 4, 8:00 p.m.** — David Leighton, pianist; Scott Hall Auditorium

**Sunday, November 10, 8:00 p.m.** — Stephen Chenette, trumpeter; Grace Lutheran Church

### Special Lecture

Mayo Memorial Auditorium, 8:00 p.m.

**Friday, November 1** — Dr. Alton Ochsner of the Ochsner Clinic, New Orleans, Louisiana, "The Increasing Health Menace of Tobacco"

### St. Paul Student Center Programs

#### Films

**Friday, November 1, 8:00 p.m.** — "Blow Up"; Peters Hall; admission \$.75

**Wednesday, November 13, 7:30 p.m.** — "Come Camping in Alaska," "Trek to the Tetons," and "The Hunt is On"; Rouser Room; no charge

**Friday, November 15, 8:00 p.m.** — "Walk on the Wild Side" and "Romanoff and Juliet"; North Star Ballroom; admission \$.75

#### Display Case

Student Center Galleries; Monday through Saturday, 7:00 a.m.-11:00 p.m.; Sunday, 12 noon-11:00 p.m.

**Friday, November 1, through Friday, November 15** — Old Tools, Dr. Lloyd Smith

#### Demonstration

**Tuesday, November 5** — Wine Cooking Demonstration; 7:30 p.m.; Rouser Room

#### Dance

**Friday, November 8** — Semi-Formal Dinner Dance; North Star Ballroom

### Urban Affairs Lectures

A service of the General Extension Division; Mayo Memorial Auditorium; 8:00 p.m.; general admission for the series is \$10.00; individual lectures are \$2.50, tickets sold at the door.

**Wednesday, November 6 - December 11** — "The Negro in America"

**Wednesday, November 6** — "The African Heritage of Americans"

**Wednesday, November 13** — "Slavery in America"

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesday, 9:00 a.m.-9:00 p.m.); Sundays, 2:00 pm.-5:00 p.m.; open to the public without charge

#### Sunday Afternoon Programs

Museum Auditorium; 3:00 p.m.; no charge

**Sunday, November 3** — "Waters of St. Croix"; film

**Sunday, November 10** — "Unchained Goddess"; film on weather

#### Special Program

An adult program meeting biweekly on Wednesday evenings. Title of the series, "Our Man-Handled Environment"

**Wednesday, November 13, 8:00 p.m.** — "Hazards of Nuclear Pollution" by Dr. Dean Abrahamson; Museum Auditorium; no charge

### University Film Society

Museum of Natural History Auditorium, 7:30 and 9:30 p.m.; admission varies with film

**Friday, November 1 and Saturday, November 2** — "Will the Real Norman Mailer Please Stand Up" (Canada, 1968), 7:30 p.m. and "Man With His Hair Cut Short" (Belgium, 1966), 9:30 p.m.

**Friday, November 8** — "Lovers of Teruel" (France, 1962)

### University Arboretum

Four miles west of Chanhassen on Highway 5; Monday through Friday, open to the public without charge; weekends and holidays, \$.50 per car

**Daily during November** — The Arboretum will be open from 8:00 a.m. to sunset

**Wednesday, November 6, 7:00 p.m.** — Class on "Cone Craft" (Fee \$2.00 for non-members, \$1.00 for members)

**Wednesday, November 13, 7:00-9:00 p.m.** — Public Information meeting on "Dutch Elm Disease"; no charge

### Athletic Department Events

#### Home Football Games

Memorial Stadium; 1:30 p.m.; reserved seat tickets, \$5.50; family plan reserved seat tickets, adults \$3.00, children under 18 \$2.00; over-the-counter sale opens Monday, the week of the game, at Cooke Hall and all Dayton's stores

**Saturday, November 2** — Iowa

**Saturday, November 9** — Purdue

#### Home Cross Country Meets

University Golf Course; 10 a.m.; no admission

**Saturday, November 2** — Iowa

**Saturday, November 9** — Northwest Open Meet

#### Home Hockey Games

Williams Arena; 8:00 p.m. Tickets on sale at gate only, adults \$1.00, students and staff members \$.25 with an athletic card, children under 18 \$.25

**Tuesday, November 12** — Intrasquad Preview (Williams Scholarship benefit game)

**Friday, November 15** — Minnesota Alumni (Williams Scholarship benefit game)

### University Broadcasts

A service of the General Extension Division

Radio KUOM, 770 on the dial

**Monday through Friday, 12:00 noon** — MIDDAY NEWS

**Monday through Friday, 1:00 p.m.** — "The Afternoon Program"

**Thursdays, 2:00 p.m.** — "What Must Be Done"

**Fridays, 2:00 p.m.** — "What Must Be Done . . . Here"

**Saturdays, 10:30 a.m.** — "Institute on Man and Science"

**Saturdays, 11:00 a.m.** — "University Music"

**Saturdays, 2:00 p.m.** — "The Saturday Show"

University Television Hour KTCA-TV (Ch. 2)

**Mondays, 9:00-9:30 p.m.** — "After High School, What?" with Professor Leonard Bart

**Mondays, 9:30-10:00 p.m.** — "Folio" with Richard Korfhage

**Tuesdays, 9:00-10:00 p.m.** — "Negro History" with Professor Allan Spear

**Thursdays, 9:00-9:30 p.m.** — "Confrontation" with Professors William Hathaway and Forrest Harris

**Thursdays, 9:30-10:00 p.m.** — "Town and Country" with Professor Ray Wolf

**Fridays, 9:00-9:30 p.m.** — "Skiing" with Cy Smythe

**Fridays, 9:30-10:00 p.m.** — "Joyce Chen Cooks"

# University of Minnesota Calendar

## Nov. 15-30, 1968

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium, 8:30 p.m.

**Friday, November 22 — Malcolm Frager, Pianist (Tickets \$3.00-\$5.75)**

**Friday, November 29 — Isidor Saslav, Violinist; George Trautwein, conducting (Tickets \$3.00-\$5.75)**

#### Sunday Concert Series

Northrop Auditorium, 4:00 p.m.

**Sunday, November 24 — Arthur Fiedler, Guest Conductor (Tickets \$2.25-\$4.75)**

### University Artists Course

Northrop Auditorium, 8:30 p.m.; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

#### Celebrity Series

**Tuesday, November 19 — Van Cliburn, Pianist (Tickets \$2.50-\$6.00)**

#### Special Concert

**Saturday, November 30 — International Center Benefit, Les Danseurs Africains du Senegal (Tickets \$2.00-\$5.00)**

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through November — Paintings by Jerome Hill**

**Through Sunday, November 24 — Photography by Don Paden**

**Through November — Selections from the Permanent Collection**

#### St. Paul Student Center Galleries

Monday through Saturday, 7:00 a.m.-11:00 p.m.; Sunday, 12 noon-11:00 p.m.

**Through November — Oils by Gordon Martenson, State Fair Winner '67**

**Through November — Five Perham Women**

### University Theatre

#### Scott Hall Auditorium Series

Scott Hall Auditorium; Thursday and Sunday 3:30 p.m.; Thursday and Friday, 8:00 p.m.; Saturday, 7:00 and 10:00 p.m.; general admission \$2.00, students \$1.25

**Friday, November 22, through Saturday, November 30 — "A Man For All Seasons" by Robert Bolt**

### Music Department Programs

**Sunday, November 17, 4 p.m. — Football Marching Band; Northrop Auditorium; admission**

**Sunday, November 17, 8:00 p.m. — Chamber Singers; Grace University Lutheran Church; no charge**

**Saturday, November 23, 8:00 p.m. — Football Marching Band; Northrop Auditorium; admission**

**Sunday, November 24, 2:00 p.m. — Concert Choirs; location to be announced; no charge**

**Monday, November 25, 8:00 p.m. — Dennis Johnson, pianist; Scott Hall Auditorium; no charge**

**Tuesday, November 26, 8:30 p.m. — University Symphony Orchestra; Northrop Auditorium; no charge**

### Special Forum

**Tuesday, November 19, 8:00 p.m. — "Housing for Families: Accommodating Different Cultural Values and Requirements in Private and Public Housing"; North Star Ballroom; no charge**

### St. Paul Student Center Programs

#### Films

**Friday, November 22, 8:00 p.m. — "Spy Who Came in from the Cold" and "Von Ryan's Express"; North Star Ballroom; admission \$.75**

**Wednesday, November 27, 7:30 p.m. — "Ski Happy"; Rouser Room; no charge**

#### Music

**Wednesday, November 27, 12 noon to 1:00 p.m. — Festival Season Concert by the University Resident Oratorio Choir; North Star Ballroom; no charge**

#### Demonstration

**Wednesday, November 20, 7:30 p.m. — Archery Demonstration; Rouser Room**

### Urban Affairs Lectures

A service of the General Extension Division; Mayo Memorial Auditorium; 8:00 p.m.; general admission for the series is \$10.00; individual lectures are \$2.50, tickets sold at the door

**Wednesday, November 20 — "Reconstruction in Black — Issues and Participants"**

**Monday, November 25 — "The Age of Booker T. Washington and DuBois"**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesday, 9:00 a.m.-9:00 p.m.); Sundays, 2:00 p.m.-5:00 p.m.; open to the public without charge

**Daily during November — Outstanding displays of Minnesota wildlife scenes**

#### Sunday Afternoon Programs

Museum Auditorium; 3:00 p.m.; no charge

**Sunday, November 17 — "How Animals Communicate"; film**

**Sunday, November 24 — "Paddle to the Sea"; two films on glaciers**

### University Film Society

Museum of Natural History Auditorium, 7:30 and 9:30 p.m.; admission varies with film

**Friday, November 22 — "Les Carabiniers" (France, 1963)**

**Friday, November 29 — "Journey Beyond Three Seas (Russia-India, 1964)**

### University Arboretum

Four miles west of Chanhassen on Highway 5; Monday through Friday, open to the public without charge; weekends and holidays, \$.50 per car

**Daily during November — The Arboretum will be open from 8:00 a.m. to sunset**

**Thursday, November 26, 7:00 p.m. — Class on "Selecting Christmas Gifts for the Horticulturist and Naturalist" (Fee \$2.00 for non-members, \$1.00 for members)**

### Athletic Department Events

#### Home Basketball Games

Williams Arena; 8:00 p.m.

**Tuesday, November 19 — Intrasquad Preview (Williams Scholarship benefit game. Tickets on sale at gate only, adults \$1.00, students and staff members \$.25 with an athletic card, children under 18 \$.25)**

**Saturday, November 30 — Iowa State University (Reserved seats \$2.25, general admission \$1.50; over-the-counter sales opens Monday, the week of the game, at Cooke Hall and all Dayton's stores)**

#### Home Swimming Meet

Cooke Hall; 2:00 p.m.; no charge

**Saturday, November 23 — Varsity Intrasquad**

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THE UNIVERSITY STAFF MAGAZINE DEC. 1968

# UMD Library



The goal of service to students at the University of Minnesota, Duluth (UMD) Library is reflected both in the day-by-day attitude of its staff and in the physical layout of the building.

"We have a bright, new building where the reader can share an intimacy with books," declares Head Librarian Rudolph Johnson.

"We have tried to make our operation as completely reader-oriented as possible with easy access to all areas of the building."

The \$2,106,000 UMD Library now has a collection of 120,000 volumes with space to handle up to 250,000, plus 1,500 serial periodicals. Built in three stages starting in 1953, the Library now can accommodate 1,200 students, half of them in private study carrels of contemporary design.

The library is one of the 14 major buildings on campus which are inner-connected for efficient traffic and all-weather comfort.

The first floor of the library has a reserve reading room, an auxiliary study hall, and a late-hour study room which is open until 1 a.m. each day and 24 hours during examination time. Also on the first floor are the Children's Library, a model school library of 9,000 volumes formerly housed in the UMD Laboratory School, and the Teaching Materials Library with 12,000 school texts, courses of study, teaching manuals, and other instructional materials.



*UPPER*—Except for rare books and a few specially reserved volumes, all of UMD's 120,000 volumes are easily accessible in open stacks on all three floors of the library. *LOWER*—Special features of the UMD Library are quiet areas such as this discussion room. There are two such rooms, plus three group-study rooms and a faculty lounge.

*Maureen Smith, Editor*

*Joan Friedman, Associate Editor*

#### ADVISORY GROUP

*William L. Nunn, Director / William T. Harris, Jr., Assistant Director / Advisory Committee: Members of the University Public Information Council. The MINNESOTAN is published monthly October through May by the Department of University Relations, 220 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Subscription-free copies mailed to full-time staff members. Non-staff member subscription rate: \$2.00 per year, \$0.30 per copy. Copies of each issue on sale at Coffman Memorial Union Bookstore. Second class postage paid at Minneapolis, Minnesota.*

minnesotan

Vol. 19 No. 3

ON THE COVER is the plaza entrance to the O. Meredith Wilson Library.

# Seeks to Serve Students

On the second or main floor are the card catalog, circulation desk, reference and periodical collections, periodical abstracts and indexes, facilities for viewing microfilm and listening to recordings, and a faculty lounge.

The major book collection is located in open stacks on the third floor, which also features student lounge areas, group study rooms, carrels, and study tables interspersed throughout the stacks.

Branch libraries elsewhere on campus include departmental collections in biology, chemistry, geology, and physics.

Mr. Johnson directs a staff of 16 full-time members and 35 part-time or work-study students.

Special services for UMD Library patrons, who include all University students and faculty members from any campus, are coin-operated photocopiers and typewriters, and easy access, through intralibrary loans, to the 2,750,000 volume collection on the Minneapolis campus. The UMD Library also subscribes to all U.S. government depository documents, over 40,000 titles annually, on Readex microprint.

"We have plans for a teletype hookup with other campuses of the University, a telefacsimile facility as soon as it becomes economically feasible," Mr. Johnson said. "Of course, computerization is in our future plans."

Still young in years, the UMD Library already has a

special collection of Utopian Literature, largely due to the courses and writings of Professor Gerhard von Glahn, Head of the UMD Department of Political Science and Chairman of the Library Committee.

A new Voyageur Collection has been started which will feature books and other materials relating to the early history (1650-1850) of Northeastern Minnesota, Northern Wisconsin, Upper Michigan, and parts of Canada. It will include materials about the voyageur, the Indian, the fur trader, the early missionary, the explorer, and the settler—all of whom were part of the voyageur period.

The 73-volume set "The Jesuit Relations" is an example of books in the collection, many of them given by donor friends.

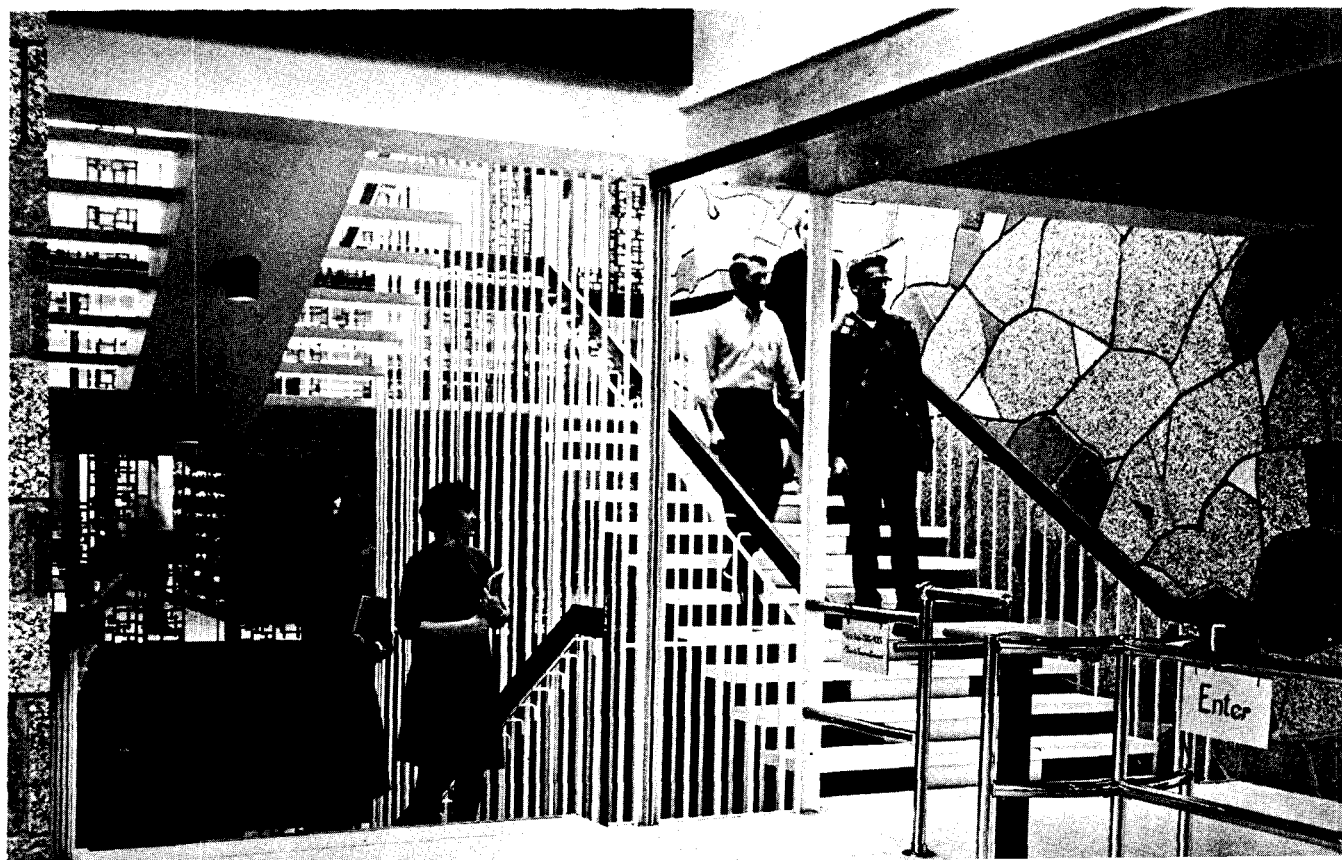
Mr. Johnson said that the physical layout of the UMD Library should take care of student use up to 1980.

"We now have an active collection of scholarly books to support 53 undergraduate majors and 15 Master's programs," he said.

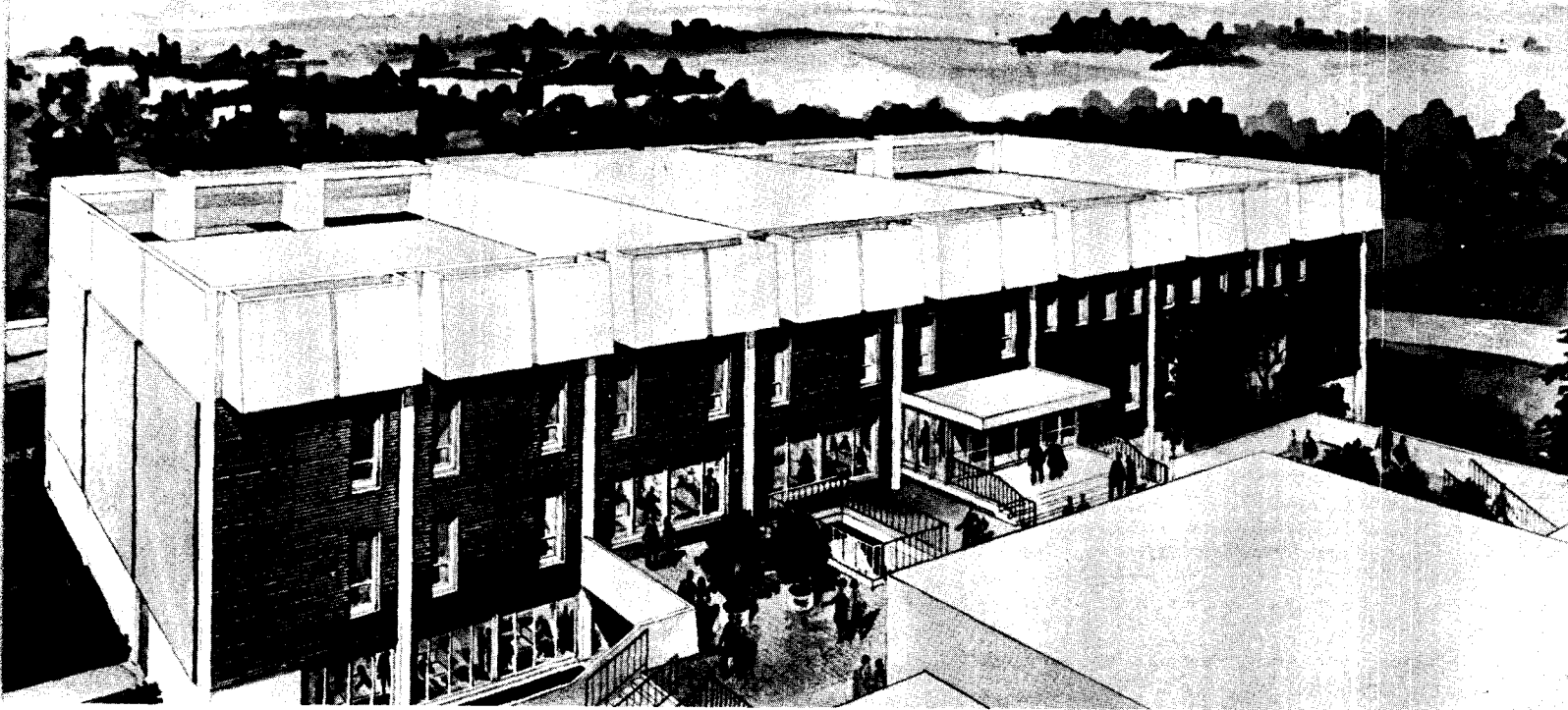
"However, we must plan to enrich our collection as future M.A., M.S., and Ph.D. programs are developed at UMD."

Assisting Mr. Johnson and his staff with this task will be the UMD Library Committee headed by Professor von Glahn. The committee has nine faculty and two student members.

*Stone and metal and cantilever stairways are featured in the interior entrance to the UMD Library which is skylighted from the third floor.*



# New Library Opens at Morris



Phase One of a proposed \$1,690,000 library opened in the summer of 1968 on the campus of the University of Minnesota, Morris. The new library has space for about 60,000 volumes and for almost 200 students.

With funding requested from the next legislature, Phase Two of the library would provide reader space for an additional 400 students and shelving to bring the total library capacity to about 100,000 volumes.

Until the new library opened, library facilities on the campus were very limited. But now the library staff is able to offer the services and resources that are needed on a liberal arts campus.

Head Librarian Russell E. DuBois said that there is close consultation between the library staff and members of the faculty, so that the library can be used in support of the instructional programs. An especially strong library program has been developed in support of the Seminar-Honors Program.

Like the new Wilson Library and the UMD Library, the Morris Campus library gives students access to books in open stacks. Private and group study rooms are available for students and faculty members.

An extensive microfilm program is being developed, and the periodical collection has been built to a current subscription list of about 550 periodicals.

"Students and faculty on the Morris Campus have access to all library facilities available on the Twin Cities Campus," Librarian DuBois pointed out. The reciprocal arrangement among University of Minnesota libraries is effected by use of the mails and enlarges the resources available to all University students and faculty members.

As the largest library in the west central area of the state, the new Morris library serves more than just the

campus academic community. Many area teachers and other professional persons make frequent use of the library. Students from area high schools make arrangements through their teachers for use of the library.

Four librarians and three library assistants comprise the full-time staff at Morris.



*Library staff members at Morris work in the cataloging department. Above is the architect's drawing of the Morris library. Phase One, now completed, is at the right.*



## *New O. Meredith Wilson Library*

# Open Stacks Invite Reading

A new kind of library, the O. Meredith Wilson Library is designed for accessibility of library materials and flexibility and variety of study facilities.

According to Professor E. B. Stanford, Director of University Libraries, "This new facility now provides Minnesota faculty and students with library quarters for study and research that are unexcelled in any university today."

Books are within easy reach, available in open stacks that surround central reading areas. Professor Ralph H. Hopp, Associate Director of Libraries, said that the Wilson Library is probably the largest open stack academic library in the country.

With tables and chairs in the midst of books and periodicals, the student or other library patron can help himself to what he needs and sit right down to study.

Depending on his own preference and on the type of reading he plans to do, he can choose the privacy of an individual study desk, the quiet of a desk hidden behind the book shelves, the comfort of a lounge chair in a smoking area, or the convenience of a large table where he can spread out his sources.

In Walter Library books were housed in a 12-story stack area. Although students were given access to the stacks, the atmosphere did not invite reading and

browsing in the same way that Wilson does.

Colorful furniture, expanses of glass and brick and Italian travertine, and a feeling everywhere of space and light make the Wilson Library as attractive as it is convenient. And the 10-million dollar library is the University's first completely air-conditioned building.

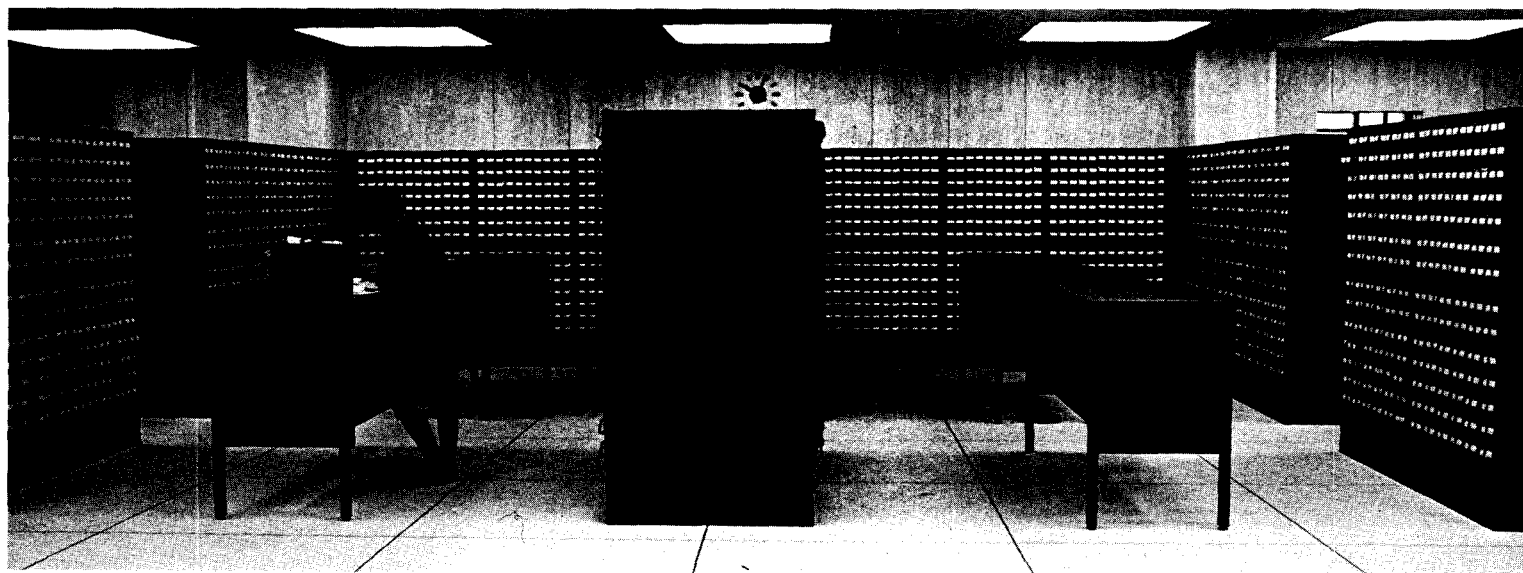
A large building, the Wilson Library looks smaller on the outside because it is broken up with indentations. Inside, channels of light break the mass into acceptable areas.

Two main entrances, equal in size, were designed for the comfort and convenience of library users. It is expected that each entrance will be the main one for six months of the year.

In warm weather most students and staff members enter from the West Bank plaza area. In cold or rain or snow most patrons enter from the wide underground concourse that connects the library with all other classroom and office buildings on the West Bank. (When the West Bank Campus plan is completed, the Wilson Library will be in the center of the complex.)

The plaza floor includes the library's service areas — the circulation desk, the reference desk, the card catalog. Around the periphery of this floor, staff members are busy processing the books.

Because the underground entrance is the heaviest-



use entrance during most of the academic year, the two heavy traffic areas of the library are on the basement level: the Reserve Book Division and the Periodicals Division.

On many trips to the library a student goes directly to one of these areas and never leaves the basement. Those who do want to go up to the plaza level get there quickly on a one-way escalator.

Almost half of the space in the library is below ground level, because the two lower levels are much larger than the four floors and the penthouse above ground.

In the subbasement are the Newspaper and Microfilm Division and several specialized libraries: the Map Division, moved from the Social Sciences Building; the Business Reference Service, formerly in the Garver Room located in the Business Administration Building; and the Ames Library of South Asia, the Middle East Library, and the East Asian Library, all moved from Walter.

The second and third floors, identical in design, hold books, tables, and study desks. The library's administrative offices are on the fourth floor, which also includes the James Ford Bell Library, the Department of Special Collections, and the Documents Division, a new service unit established when the move was made to Wilson.

In naming the library for its ninth President, Dr. O. Meredith Wilson, the University honors a man whose personal efforts were instrumental in obtaining the necessary funds for the building. Two-thirds of the money was appropriated by the State Legislature and one-third came from federal sources.

Reviewing the history of the O. Meredith Wilson Library, Professor Hopp explained that the need for a new library had long been felt and that the choice of a West Bank location was a "self-reaching decision" as soon as the University's plan to go across the river for expansion was announced.

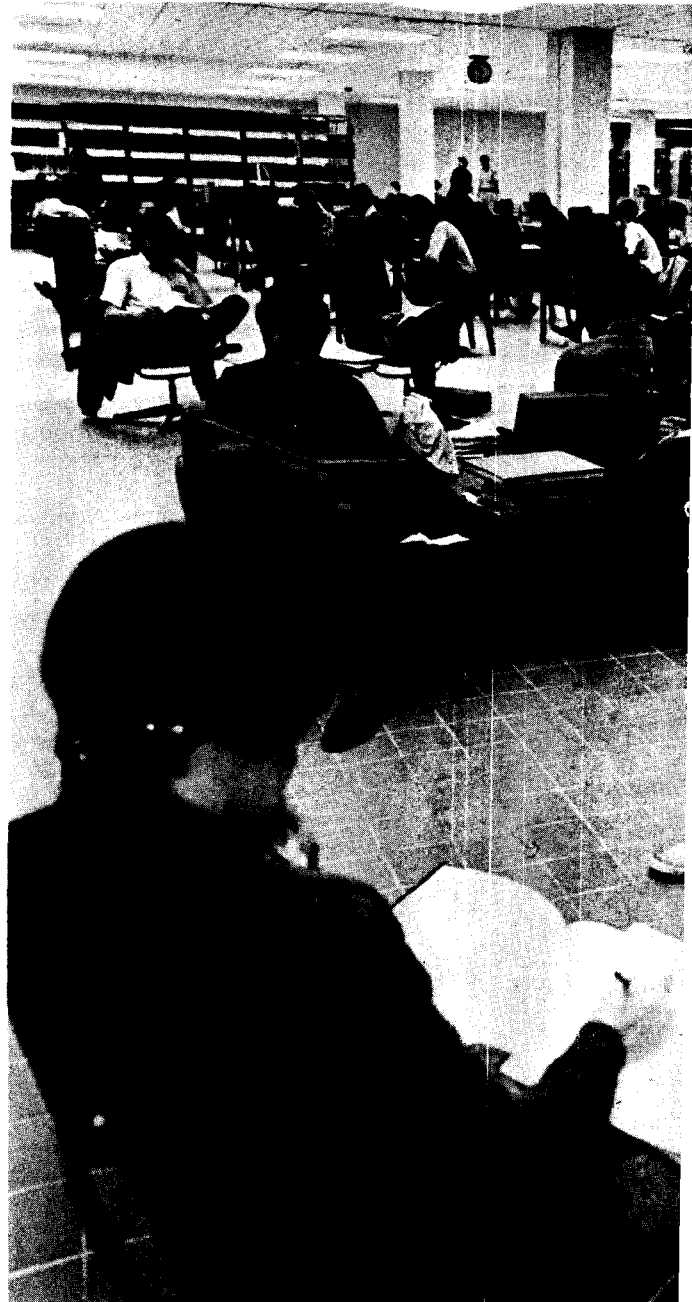
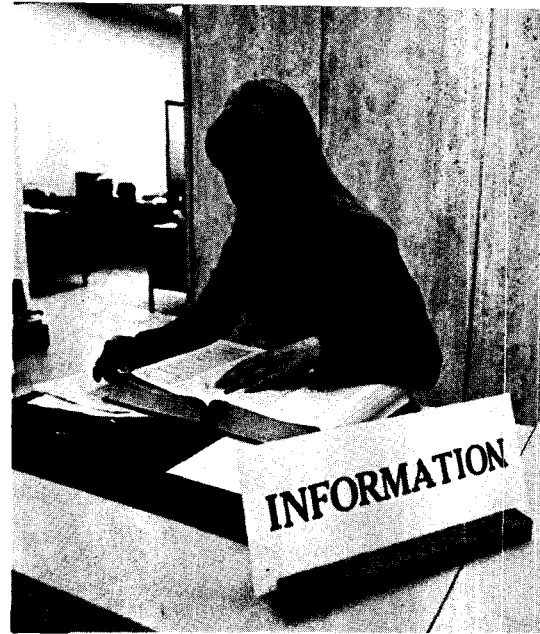
When social sciences and humanities classroom buildings were planned for the West Bank, it became apparent that the University's extensive holdings in these areas would have to be placed in the new library and that this library would become the "main" library with the administrative and processing offices for the whole University Libraries system.

"The library is their laboratory," Dr. Hopp said to illustrate the importance of a library to students and professors in the humanities and social sciences. And the holdings in these fields constitute a large part of the total University Libraries collection.

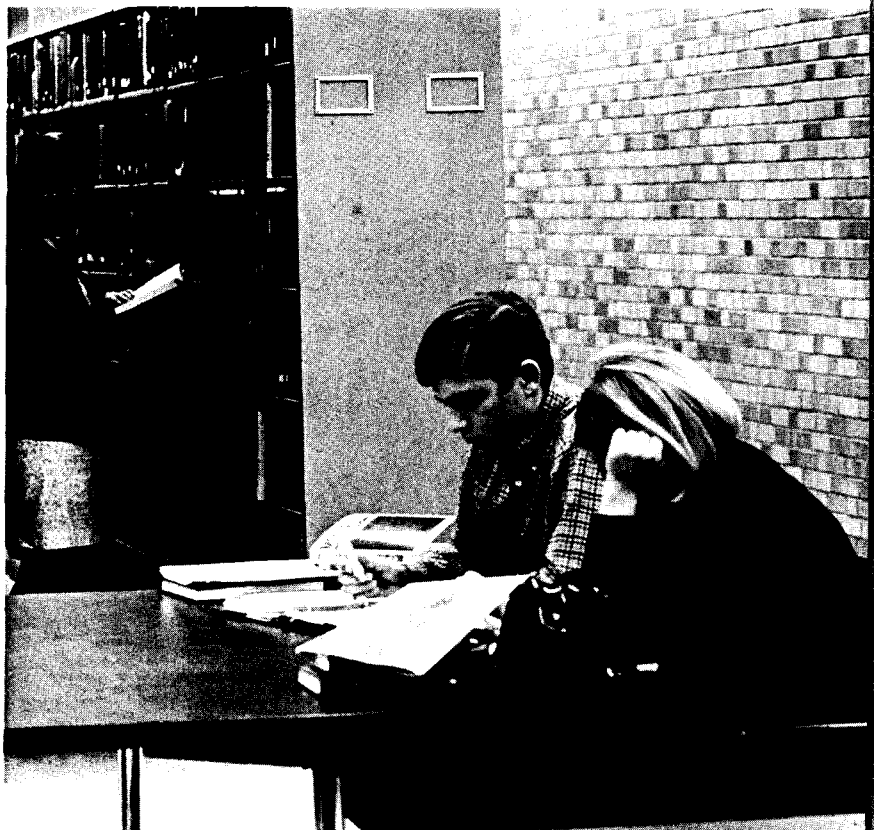
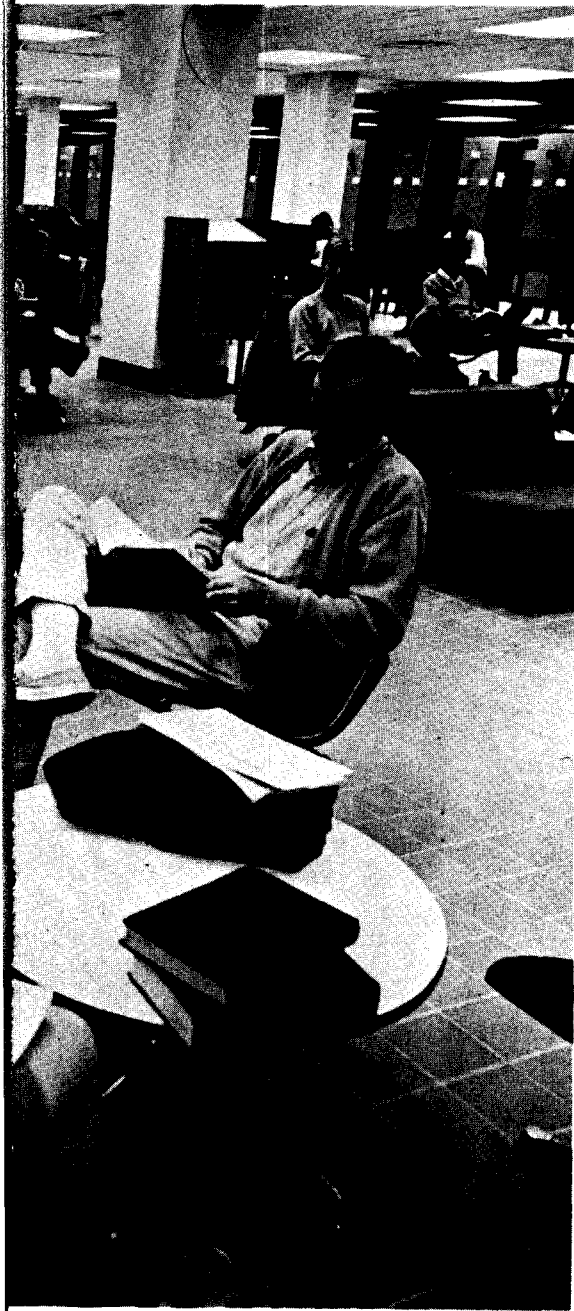
It was Professor Hopp's responsibility to draft a detailed program statement outlining the space and facilities needed by each unit of the library. This detailed study, prepared in consultation with individual department heads within the library system, enabled the architects to meet the specific needs and reflect the philosophy of the library staff.

The Cerny Associates, Inc., was the architectural firm and Mr. Donald Drews the project architect, who showed a "really competent understanding of our mission," according to Dr. Hopp.

But funding was needed before the architects could go to work. For a while, Professor Hopp said, it appeared that the University would be able to build only "half a building, or a third of a building." Through the



*LEFT, Librarian Sandra DeMore at the reference desk. BELOW, the skylighted area of the Periodicals Division. UPPER RIGHT, the plaza entrance to the Wilson Library. LOWER RIGHT, a study area on the second floor.*



efforts of men like President Wilson, Vice President Stanley J. Wenberg, and Vice President Paul H. Cashman, full funding was obtained and the University was "able to get the whole package."

Well in advance of the final plans for the Wilson Library, Director Stanford and the Senate Library Committee held numerous meetings with academic departments scheduled to move to the West Bank. In these sessions the overall philosophy behind the planning of the library was developed.

Mr. Roger Hanson, Assistant to the Director, was brought to the University for the specific purpose of handling details of furnishing the new library and moving from Walter to Wilson. He prepared detailed specifications for the furniture and provided liaison with the vendors of furniture and with the movers. Now that the move has been completed, he is busy in his other capacity as Chief of the Reference Services Department.

About 15 major moves of individual libraries — those moving into Wilson and those moving into Walter — resulted when the new building was ready. Assistant Director of Libraries Raymond Bohling coordinated these moves.

The O. Meredith Wilson Library opened September 23 and was ready for patrons from the start. Continuous service was provided throughout the move, "to the credit of many people on the staff," Dr. Hopp said. When someone wanted a book in the middle of the move, "it may have taken longer, but it was found." Chief of Circulation Services Walther Liebenow was in charge of the maintenance of collections and of service throughout the move.

A private firm hiring over 100 student helpers moved about 800,000 or 900,000 books in the largest library move in the history of the Twin Cities. Special care was taken to eliminate wear and tear on the books.

To maintain library service at a minimum level, about a dozen full-time positions were added to the total University Libraries staff with the opening of the new library. Until there are further additions to the staff the library cannot be operated in the way that it was designed.

In Wilson Library there are 155 full-time staff members and about 200 part-time student employees.

Every area of the library gives evidence of the close consultation between the architects and the library staff in planning for convenience and flexibility of facilities.

Someone coming to the library for the first time and entering from the plaza is likely to turn to the reference desk at his right or walk straight ahead to use the card catalog.

Plans are to create in the reference room "one of the most effective reference services anywhere," Dr. Hopp said. Questions that cannot be answered by the reference librarians at the information desk will be referred to one of the specialist bibliographers.

The reference room is one of the most pleasant parts of the library, with one wall of glass looking out onto the plaza. Experts in, for example, Russian sources or Scandinavian sources will be available here for consultation.

The central card catalog for the University Libraries system fills one wall in the lobby. Tall and deep, the cases have maximum capacity and are arranged in

such a way that much less total space is needed than was used for the card catalog in Walter Library.

Against the off-white walls of travertine, these rich brown cases make what Dr. Hopp called "one of the most beautiful card catalog installations in the country."

The staff sections of the service floor have been arranged to make book flow easy — from Resources to Processing to Circulation. The Resources Department, formerly called Acquisitions, determines what new books need to be added. Specialists and faculty members are consulted in these decisions. This department is located right behind the card catalog so that the staff members have immediate access to the bibliographic record of the library system.

Cubicles in a modular construction provide every professional person in this area with a little "office" of her own. The compact work area includes a desk and shelves that are fastened to the walls.

"A little bit of outside in this subterranean level" is the way Dr. Hopp described one area in the Periodicals Division. Skylights, plants, a terra cotta floor, and colorful chairs give the effect of a patio.

Located just outside the Periodicals Division is the

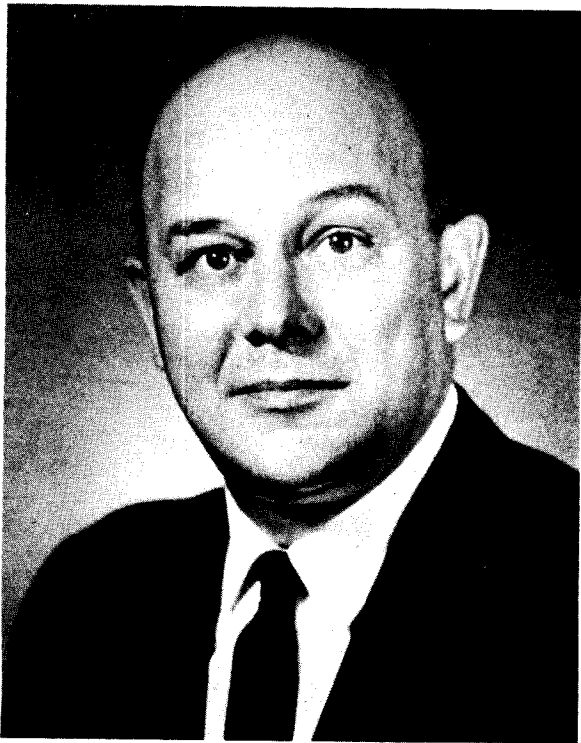
*(Continued on page 10)*

*Curator John Parker sits in the James Ford Bell Room which has been moved intact from Walter Library to the fourth floor of Wilson. Books in the James Ford Bell Library are kept in a vault.*





# Abraham, Routhe Head Agricultural Extension



*Director Roland H. Abraham*



*Associate Director Harlund G. Routhe*

A new Director and Associate Director have recently been named by the Board of Regents to lead the Agricultural Extension Service.

Professor Roland H. Abraham became Director on July 1, following June action of the Regents. He had served during the past year as Acting Director when Professor Luther J. Pickrel was granted a year's leave of absence.

Professor Pickrel has since been named Associate Dean for Research in the University's Graduate School and Extension State Leader for Special Studies.

As Director of the Agricultural Extension Service, Professor Abraham will be responsible for the University's continuing education program in agriculture and related fields, according to Dean Sherwood O. Berg of the Institute of Agriculture.

The Extension Service is one of the four major units of the Institute and includes 220 extension agents in 92 county offices, 30 area agents and coordinators, and a state staff of over 100 subject matter specialists and administrative personnel.

Professor Abraham began his agricultural extension career in 1938 and served as a county agricultural agent in Minnesota 14 years, most of that time in Jackson County in southern Minnesota. He was District County Agent Supervisor for northwestern Minnesota from 1951 to 1954, Assistant Director of the Extension Service from 1954 to 1962, and Associate Director from 1962 to 1967.

He received his bachelor's degree in agriculture from the University in 1938, his master's in public administration from Harvard University in 1951, and his Ph.D. from the National Agricultural Extension Center for Advanced Study, University of Wisconsin.

To fill the position left vacant when Professor Abraham was named Director, the Regents on September 13 named Professor Harlund G. Routhe as Associate Director of the Agricultural Extension Service.

He had served as Extension Program Leader for Agricultural Production and Technology at the University since 1963. He joined the Extension staff in 1952 as field man for the Southwest Farm Management Association at Worthington. From 1955 to 1963 he was Extension Economist in farm management.

He attended the University of Minnesota where he earned a B.S. degree with distinction in 1950, and an M.S. in agricultural economics in 1954. He was on sabbatical leave from 1964 to 1966 to continue graduate studies at the University of Wisconsin under a fellowship from the National Agricultural Extension Center for Advanced Study.

Professor Routhe is a member of the American Agricultural Economics Association, the American Society of Farm Managers and Rural Appraisers, Epsilon Sigma Phi, national extension professional fraternity, and Gamma Sigma Delta, national honor society of agriculture. He is also author of a number of articles in national magazines.

# Regent Lyman Brink Appointed



Regent Brink

Newest Regent of the University of Minnesota is Mr. Lyman A. Brink, an attorney from Hallock, Minnesota, and the Kittson County Attorney during most of the years since 1935.

Governor Harold LeVander named Regent Brink on October 4 to fill the vacancy created by the death on September 8 of Regent Herman

F. Skyberg of Fisher, who was elected to the Board of Regents in 1949 as a representative of the seventh Congressional District.

Regent Brink, a native of Duluth, spent two years at Concordia College in Moorhead and received his bachelor's and law degrees from the University of North Dakota in Grand Forks.

After he was graduated from law school, he took office as Kittson County Attorney, a position he has

held for all but about three years since then. He served as a District Judge in 1962 and 1963.

Regent Brink is in private practice in Hallock and is Kittson County Republican chairman. He is a trustee of Gustavus Adolphus College in St. Peter.

In 1946 Regent Brink was instrumental in organizing a scholarship program in his home area. That year \$500 was raised to help finance the first year of college for a young girl who would otherwise have been unable to attend college. The scholarship program is "still going strong," Regent Brink said.

Because he comes from the Red River Valley farming country, he said, he will have a particular interest in the University's activities in agriculture.

He also expressed concern, as other Regents have, about the difficulties of small towns in obtaining general practice physicians. "This is a real problem at the University Medical School that the University has to meet," he said.

Regent Brink is a member of Masonic, Eagles, Lions, Woodmen, Shrine, and Elk organizations. He and his wife have two married daughters who live in Minneapolis.

## Wilson Library

(Continued from page 8)

photocopying service. Dr. Hopp commented that with this inexpensive service available to library patrons, loss and mutilation of library materials have been greatly reduced.

On the library's upper floors, individual faculty rooms and graduate-student carrels are located along the walls. Conference rooms of various sizes are available on assignment for group study or discussion. Glassed-in smoking areas offer a view of the campus from comfortable lounge chairs.

Although Walter Library may now seem drab in contrast with the modern Wilson Library, the benefits of additional space are also felt in this building. Units in Walter that were extremely crowded have been expanded, and some areas in the building have been converted into much-needed study halls or assigned for nonlibrary uses.

The College Library, formerly named the Freshman-Sophomore Library, has moved to Walter from the ground floor of Johnston Hall. As the Freshman-Sophomore Library it was essentially a reserve book library for the Lower Division. Now the reserve function has been taken over entirely by the Reserve Library in Walter, and the College Library is a general library for students who want access to general resources without crossing the river.

Periodicals, reference works, and general collections give the undergraduate everything he needs for most assignments. The resources of the Education Library also strengthen the general holdings in Walter.

The Chemistry Library and the Music Library are also located in Walter. Other departmental libraries are scattered throughout the Twin Cities Campus.

University Archives, Immigrant Archives, and the Kerlan Collection of Children's Literature remain in Walter Library. Also the library's collections in science and technology are still in the stacks and serviced by

the Chemistry Library. The Technical Information Service now has more space and is easily accessible. The Library School also stayed in Walter.

Even with the 2,200 seats in Wilson Library, a shortage of seating space for study remains. And books continue to be added to the collections — over 100,000 volumes a year. The opening of the O. Meredith Wilson Library has given a breathing space, but the library staff members are already considering their building needs for the future.

Regents' Professor of Medicine Wesley W. Spink is chairman of a committee that is making plans for the dedication of the Wilson Library in the spring.

Other members of the committee are Dean Sherwood O. Berg of the Institute of Agriculture; Director of the Library School David K. Berninghausen; Regents' Professor of Anthropology E. Adamson Hoebel; Miss Eileen A. McAvoy, Administrative Assistant to the President; Director of University Relations William L. Nunn; Director of Libraries E. B. Stanford; and students Richard Donovan, Steven Laden, and David Tramel.

## Recent Staff Publications

Dr. Usharbudh Arya, Assistant Professor of South Asian Languages, *Ritual Songs and Folksongs of the Hindus of Surinam*, E. J. Brill, Leiden, Netherlands.

Mr. John Berryman, Professor of Humanities, *His Toy, His Dream, His Rest, 308 Dream Songs*, Farrar, Straus & Giroux.

Dr. Martin Roth, Associate Professor of English, editor, *Washington Irving's Contributions to "The Critic"* (Minnesota Monographs in the Humanities, Volume 3), University of Minnesota Press.

# University of Minnesota Calendar

## Dec. 1-15, 1968

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director, ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium; 8:30 p.m.

**Friday, December 6 — Kyung Wha Chung, Violinist (Tickets \$3.00-\$4.75)**

#### Thursday Concert Series

Northrop Auditorium; 8:00 p.m.

**Thursday, December 5 — Kyung Wha Chung, Violinist (Tickets \$3.00-\$4.75)**

#### Sunday Concert Series

Northrop Auditorium; 4:00 p.m.

**Sunday, December 15 — Handel's Messiah (Tickets \$2.25-\$4.75)**

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through Wednesday, December 4 — Paintings by Jerome Hill**

**Wednesday, December 4 through Sunday, December 29 — Caricatures and Drawings by David Levine**

**Wednesday, December 4 through Sunday, December 29 — Paintings by Tom Evans**

#### St. Paul Student Center Galleries

Monday through Saturday, 7:00 a.m.-11:00 p.m.; Sunday, 12:00 noon-11:00 p.m.

**December 2 through December 14 — Miss Gagnon's Christmas Eggs, Display Case**

**December 2 through December 30 — Great Religious Paintings, Rouser Room Gallery**

**December 10 through December — Scalemander Museum of Textiles, Second Floor Gallery**

**December 10 through December — Needlework by Hannah Levinson, Display Case**

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-9:00 p.m.; Monday through Saturday, 9:00 a.m.-9:00 p.m.

**Through December 6 — Drawings and Paintings by Nancy Twedt Randall, Main Gallery Room**

**Through December 6 — Photography by John Briggs, Gallery Showcase Hallway**

**Through December 21 — Prints by William Ellingson, Gallery Long Hallway**

### University Theatre

#### Scott Hall Auditorium Series

Scott Hall Auditorium; Sunday, 3:30 p.m.; general admission \$2.00, students \$1.25

**Sunday, December 1 — "A Man for All Seasons" by Robert Bolt**

### Music Department Programs

Open to the public without charge

**Sunday, December 1 — Renaissance Singers; University Lutheran Church of Hope, 8:00 p.m.**

**Sunday, December 1 — Concert Band Ensemble; Northrop Auditorium, 4:00 p.m.**

**Monday, December 2 — John Elander, organist; Grace University Lutheran Church, 8:00 p.m.**

**Tuesday, December 3 — Phi Mu Alpha Contemporary Music Concert, Architecture Court, 8:00 p.m.**

**Wednesday, December 4 — University Chorus and members of Minnesota Orchestra; Northrop Auditorium, 8:30 p.m.**

**Saturday, December 7 — John Madura, cellist; Scott Hall Auditorium, 8:00 p.m.**

**Sunday, December 8 — Beverly Hayden, pianist; Scott Hall Auditorium, 4:00 p.m.**

### St. Paul Student Center Programs

#### Dance

**Thursday, December 5 — Michael's Mystics, North Star Ballroom, 8:00 p.m.**

#### Children's Christmas Party

**Saturday, December 14 — North Star Ballroom, 2:00-4:00 p.m.**

#### Demonstration

**Thursday, December 5 — Micro Wave Cooking Demonstration, Rouser Room, 12:00 noon**

### Urban Affairs Lectures

A service of the General Extension Division; Mayo Memorial Auditorium; 8:00 p.m.; admission for individual lectures is \$2.50, tickets sold at the door

#### The Negro in America

**Wednesday, December 4 — "1915 to the Supreme Court Decision on Education"**

**Wednesday, December 11 — "The Situation Today"**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesdays, 9:00 a.m.-9:00 p.m.); Sundays, 2:00 pm.-5:00 p.m.; open to the public without charge

#### Sunday Afternoon Programs

Museum Auditorium; 2:30 and 3:30 p.m.; no charge

**Sunday, December 1 — "White Wilderness"; film**

**Sunday, December 8 — "Kingfisher"; film**

**Sunday, December 15 — "Antarctic Seas"; films**

#### Special Program

An adult program meeting biweekly on Wednesday evenings; title of the series, "Our Man-Handled Environment"; Museum Auditorium; no charge

**Wednesday, December 4 — "Thermal Pollution of Natural Fresh Water" by Dr. Theodore Olson**

### University Film Society

Museum of Natural History Auditorium; 7:30 and 9:30 p.m.; admission varies with film

**Monday, December 2 — "Faust" (Germany, 1963)**

### University Arboretum

Four miles west of Chanhassen on Highway 5

**Saturday and Sunday, December 7 and 8 — Holiday Flower Show; 1:00-5:00 p.m. (Admission \$.50 per person)**

### Athletic Department Events

#### Home Basketball Game

Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton Ticket Offices

**Tuesday, December 3 — Marquette University**

#### Home Hockey Game

Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton Ticket Offices

**Wednesday, December 4 — Wisconsin**

#### Home Wrestling Match

Williams Arena; 12:00 noon; tickets on sale at gate only, Adults \$1.25, Children (under 18) \$.50

**Saturday, December 14 — North Dakota-River Falls-Northern Michigan**

### University Broadcasts

A service of the General Extension Division  
Radio KUOM, 770 on the dial

**Monday through Friday, 12:00 noon — The Midday News**

**Monday through Friday, 1:00 p.m. — "The Afternoon Program" with Garrison Keillor**

**Monday through Friday, 4:00 p.m. — The Afternoon News with Robert Boyle and Russell Johnson**

**Tuesdays, 2:00 p.m. — Library of Congress Lectures**

**Thursdays, 2:00 p.m. — "What Must Be Done," discussions of black/white relations in the Twin Cities**

**Fridays, 2:00 p.m. — "What Must Be Done Here," discussions of black/white relations in the Twin Cities**

**Saturdays, 11:00 a.m. — "University Music," outstanding students of the University Music Department perform and discuss their career plans with Tom Collin**

**Saturdays, 2:00 p.m. — "The Saturday Show," Marvin Granger, Garrison Keillor, and Connie Goldman present a variety of discussion and music features**

**University Television Hour** KTCA-TV (Ch. 2)  
**Mondays, 9:00-9:30 — "After High School, What?" with Leonard Bart**

**Mondays, 9:30-10:00 p.m. — "Folio" with Richard Korfhage**

**Tuesdays, 9:00-10:00 p.m. — "Afro-American History" with Allan H. Spear**

**Thursdays, 9:00-9:30 p.m. — "Confrontation" with William Hathaway and Forrest Harris**

**Thursdays, 9:30-10:00 p.m. "Town and Country" with Ray Wolf**

**Fridays, 9:00-9:30 p.m. — "Skiing" with Cy Smythe**

**Fridays, 9:30-10:00 p.m. — "Joyce Chen Cooks"**

# University of Minnesota Calendar

## Dec. 16-31, 1968

### University Artists Course

Northrop Auditorium; 4:00 p.m.; reservations may be made at 105 and 106 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

#### Special Concert

**Saturday and Sunday, December 21 and 22 — The Nutcracker Fantasy with the Minnesota Orchestra and the Contemporary Dance Theatre (Tickets \$2.00-\$4.00)**

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through Sunday, December 29 — Caricatures and Drawings by David Levine**

**Through Sunday, December 29 — Paintings by Tom Evans**

#### St. Paul Student Center Galleries

Monday through Saturday, 7:00 a.m.-11:00 p.m.; Sunday, 12:00 noon-11:00 p.m.

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Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesdays, 9:00 a.m.-9:00 p.m.); Sundays, 2:00 p.m.-5:00 p.m.; open to the public without charge

#### Sunday Afternoon Program

Museum Auditorium; 2:30 and 3:30 p.m.; no charge

**Sunday, December 29 — "Nature's Half Acre"; film**

### Athletic Department Events

#### Home Basketball Games

Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton Ticket Offices

**Tuesday, December 17 — North Dakota**

**Monday, December 30 — University of Detroit**

### University Broadcasts

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**Radio KUOM, 770 on the dial**

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**Tuesdays, 9:00-10:00 p.m. — "Negro History" with Professor Allan Spear**

**Thursdays, 9:00-9:30 p.m. — "Confrontation" with Professors William Hathaway and Forrest Harris**

**Thursdays, 9:30-10:00 p.m. — "Town and Country" with Professor Ray Wolf**

**Fridays, 9:00-9:30 p.m. — "Skiing" with Cy Smythe**

**Fridays, 9:30-10:00 p.m. — "Joyce Chen Cooks"**

**Wednesday, December 25, 9:00-10:00 p.m. — University Glee Club Christmas Concert**

**THE MINNESOTAN**  
Department of University Relations  
220 Morrill Hall

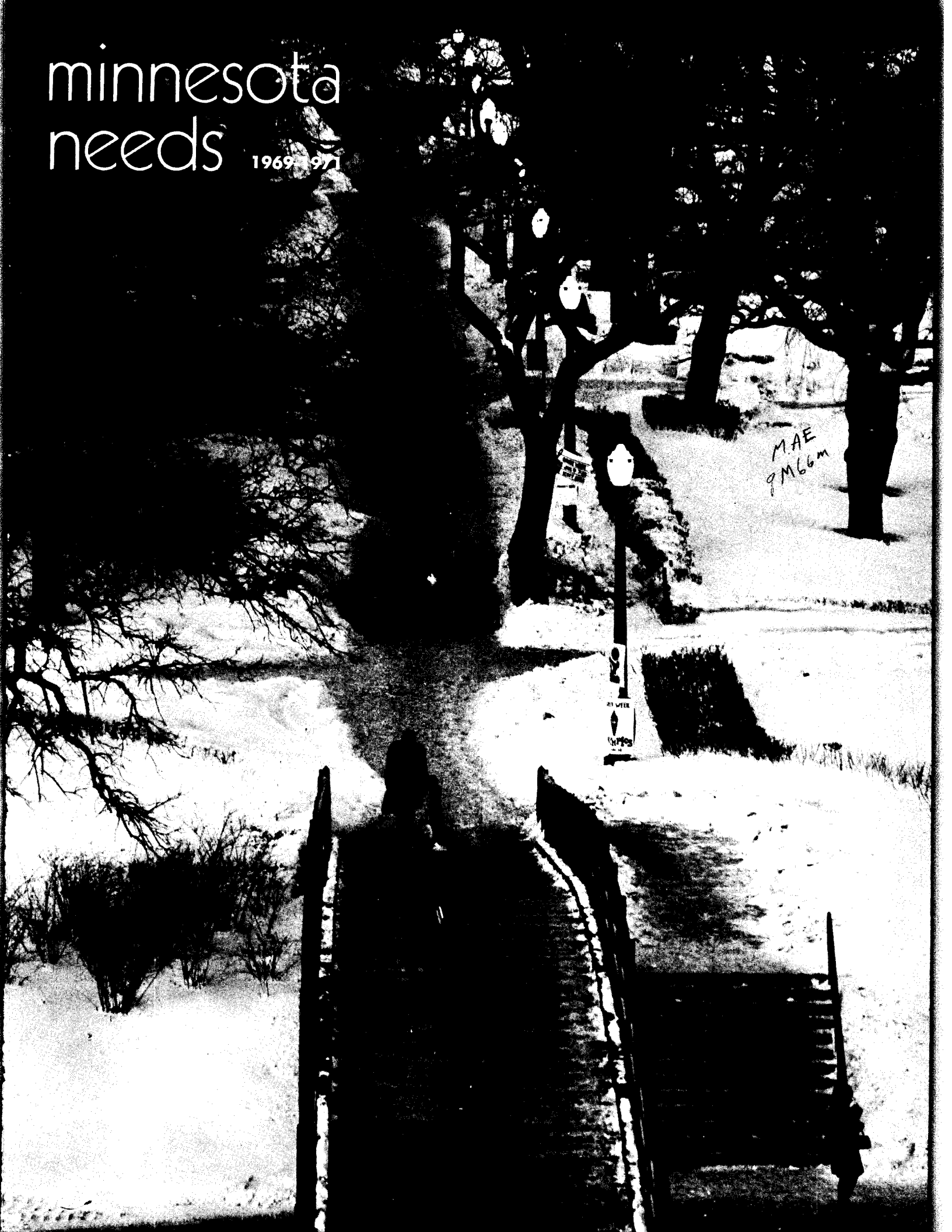
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# minnesota needs

1969-1971



# The President's Page



Each biennium the University prepares a careful statement of its needs for consideration by the Legislature. In this issue of the *Minnesotan*, we are presenting our needs for your information.

These are particularly critical days for the University as we seek to maintain and extend the work of this distinguished institution. I would value your support for this request as we work together to build a greater University.

*Malcolm Moos*

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## EDITOR'S NOTE

To inform all staff members about the University's financial needs and the Regents' legislative request for the biennium 1969-71, *Minnesota Needs* this month replaces the regular staff magazine, the *Minnesotan*.

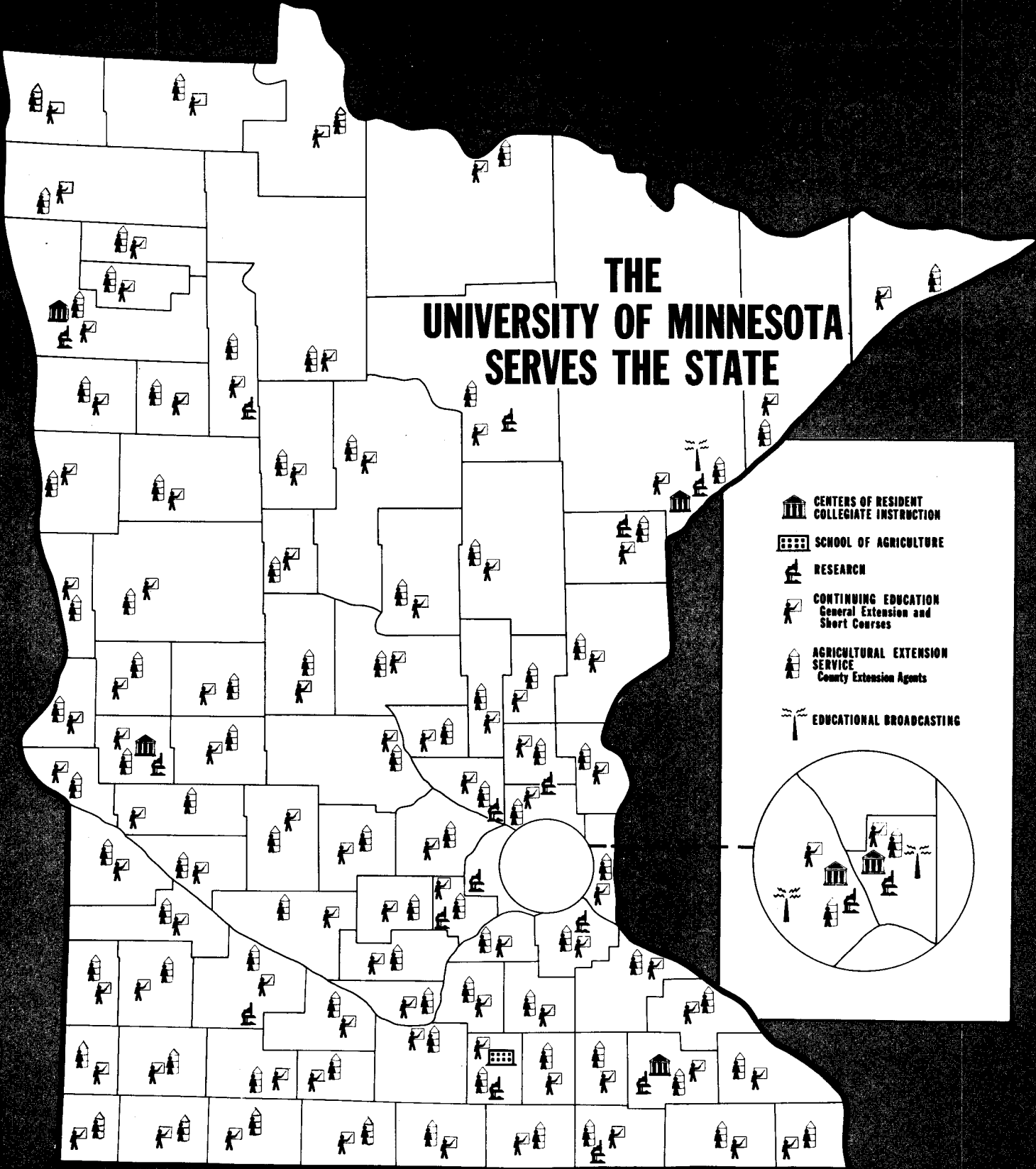
Others who will receive a copy of the Statement of Needs include members of the State Legislature, parents of University students, and winners of Outstanding Achievement Awards and Alumni Service Awards. University of Minnesota alumni will also receive the statement in a special edition of their magazine.

The Calendar of Events, usually found on the back cover of the staff magazine, is being sent in a separate mailing. In its place you will find a list of those who will serve in the 1969 State Legislature and three maps showing the Minnesota legislative districts.

## ON THE COVER . . .

is a winter scene on the Mall, with a view from the footbridge.

# THE UNIVERSITY OF MINNESOTA SERVES THE STATE



 **CENTERS OF RESIDENT COLLEGIATE INSTRUCTION**

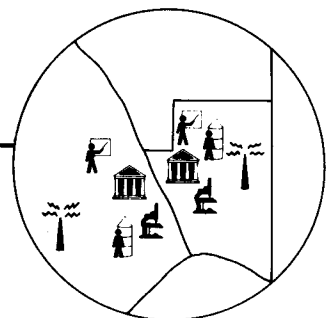
 **SCHOOL OF AGRICULTURE**

 **RESEARCH**

 **CONTINUING EDUCATION**  
General Extension and Short Courses

 **AGRICULTURAL EXTENSION SERVICE**  
County Extension Agents

 **EDUCATIONAL BROADCASTING**



The People of Minnesota and  
Their Elected Representatives and Senators in  
the State Legislature:

All Minnesotans are grateful for the wisdom and foresight of our founders who recognized and made provision for the needs of higher education. They established a tradition of support that has allowed the building of a significant educational system. This tradition must be continued.

In recent years the needs of higher education have grown rapidly as more and more young Minnesotans have sought a college degree, and as our people have demanded new services from their educational institutions. Failure to recognize these clear and pressing needs will result in a loss of quality that will require years of rebuilding. It is far easier to maintain the quality of an institution than to regain quality once it has been lost. This request has been specifically designed to continue a tradition of high quality at the University of Minnesota.

We applaud the support the Legislature and the people of Minnesota have given their University in the past. We are confident that the forward strides represented by the present request merit and will obtain enthusiastic attention.

It is in this context and with a deep sense of responsibility that the Board of Regents, my administrative colleagues, and I have presented the needs described in this statement.

Sincerely,



Malcolm Moos  
President



## A Message From The Regents . . .

Long recognized as one of the nation's foremost centers of learning, the University of Minnesota is certainly one of Minnesota's greatest social, cultural, and economic assets.

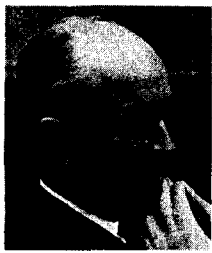
As Regents elected by the State Legislature to represent the people of Minnesota, we are charged with the responsibility of maintaining, developing, and protecting the University.

Minnesota Citizens, through their Legislature, have invested wisely and well over the years in the development and support of their great University. Returns on the investment have proved phenomenal in the University's enhancement of human resources and its enrichment of the State's social, cultural, and economic life—by training young people, by exploring new fields of basic knowledge, and by bringing to millions the fruits of culture and technology.

The major factor in the impressive dividends Minnesota has earned on its investment has been the high quality which the University has established and maintained in its three interrelated functions of teaching, research, and public service.

To assure the continuity of these priceless dividends to the people of Minnesota in years to come, it is imperative that we protect the high quality of the University's operation now. In this Statement of Needs, we have set forth our requests for the financial support which, in our best judgment, is essential to maintaining that high quality and to protecting against any threats of deterioration.

Safeguarding our investment in the University is a brave challenge to all of us—Regents, Legislators, and Citizens—who wish to maintain the excellence of the University's work which has had such a significant impact on the State for more than a century.



**Regent Malkerson**  
Chairman



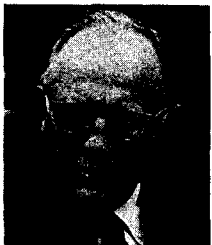
**Regent Howard**  
Vice Chairman



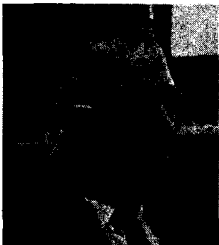
**Regent Andersen**



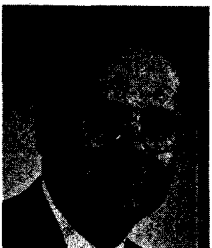
**Regent Brink**



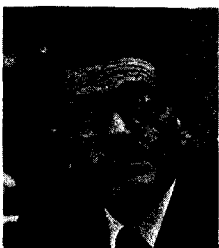
**Regent Gainey**



**Regent Hall**



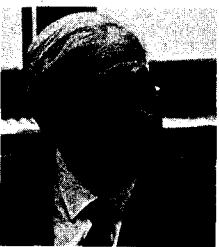
**Regent Hartl**



**Regent Huffington**



**Regent Hughes**



**Regent Montague**



**Regent Rauenhorst**



**Regent Silha**

*Lester A. Malkerson*  
*Marjorie J. Howard*  
*Elmer L. Andersen*  
*Lyman A. Brink*  
*Daniel C. Gainey*  
*Harry B. Hall*

*Albert V. Hartl*  
*H. L. Huffington M.D.*  
*Fred J. Hughes*  
*W. K. Montague*  
*George W. Rauenhorst*  
*Otto A. Silha*

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**BOARD OF REGENTS:** Lester A. Malkerson, Chairman, Minneapolis; Marjorie J. Howard (Mrs. C. Edward), Vice Chairman, Excelsior; Elmer L. Andersen, St. Paul; Lyman A. Brink, Hallock; Daniel C. Gainey, Owatonna; Harry B. Hall, M.D., Edina; Albert V. Hartl, Fergus Falls; Herb L. Huffington, M.D., Waterville; Fred J. Hughes, St. Cloud; William K. Montague, Duluth; George W. Rauenhorst, Olivia; Otto A. Silha, Edina.

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# WE, THE REGENTS, NEED STATE MONEY

## To Maintain, Nourish, and Develop Our Great State University



As a State university, the University of Minnesota is owned by the People of Minnesota. Although the University has supplemental sources of income and generates some income of its own—such as tuition—it cannot exist without State money.

In all aspects of its operation as an educational institution, as a major research center, and as a dedicated public servant, it is dependent upon money appropriated by the State Legislature. Of the University's operational dollars, approximately one-third comes from the State.

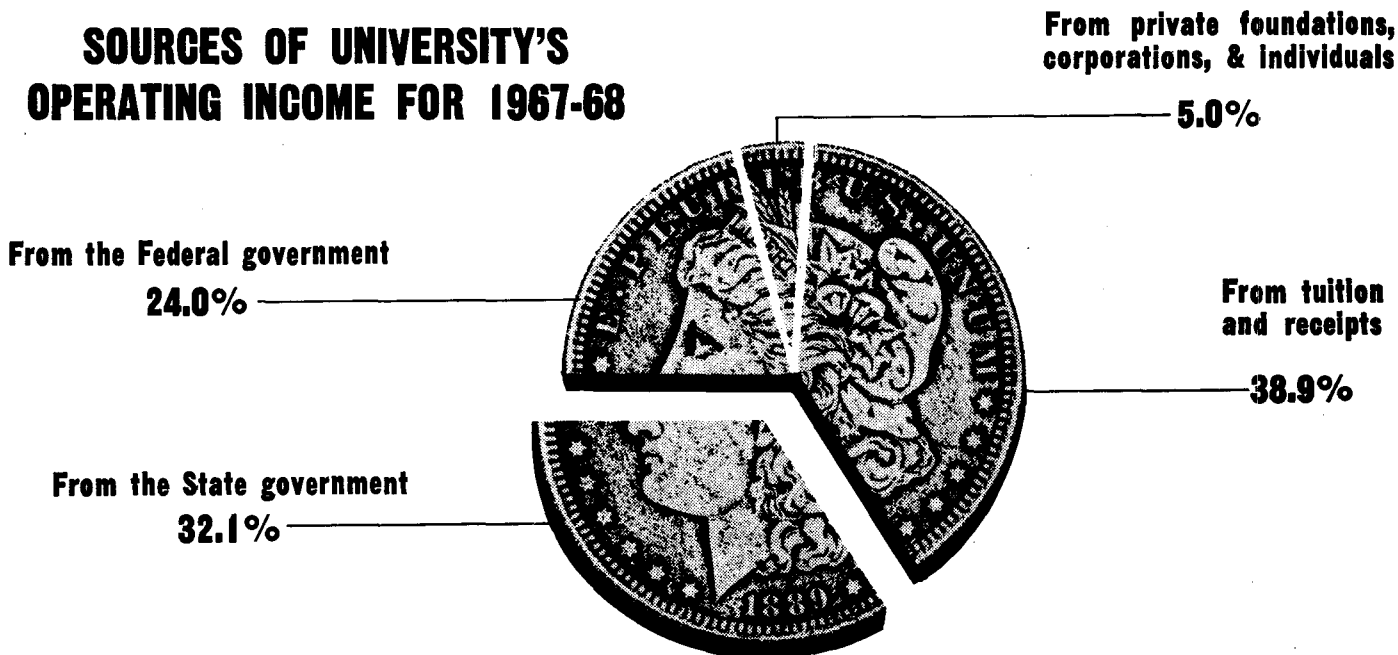
State money enables the University to meet the payroll for the teachers who educate our sons and daughters, and for the librarians, bookkeepers, custodians, admissions clerks, secretaries, laboratory attendants, and all the other staff members needed by a great university to carry on its work in education, research, and service.

State money also pays for the innumerable necessities of our University's physical operation and maintenance—for supplies and equipment, for heat and electricity, for repairs, and for an amazing variety of housekeeping tasks required throughout the institution's impressive array of buildings erected chiefly with State funds.

State money serves as a magnet which attracts other funds—grants, gifts, and endowments—to our University. The power of the magnet is related closely to the strength of the financial support appropriated to the University by the State Legislature.

The significance of State money as a source of the University's operating income is shown in the chart on this page.

### SOURCES OF UNIVERSITY'S OPERATING INCOME FOR 1967-68



# TEACHING, RESEARCH, SERVICE

## We Need State Money to Support the University's Three Inherent Functions

1968-69

### Fall Quarter Attendance

Students in Degree-Granting Colleges .....	47,534
Evening Class Extension Students ....	19,290
Sub-Collegiate Students* .....	438

1968

### Summer Session Attendance

1st Session .....	17,157
2nd Session .....	12,331

### Other Registrations School Year 1967-68

In Continuing Education Courses, Agricultural and General .....	222,387
In Independent Study (Correspondence) Courses .....	12,876

\*School of Agriculture in Waseca; College of Education Laboratory Schools.

## TEACHING

The prime purpose of our University is teaching, and, naturally, teaching-related outlays exceed all other expense items in our budget. State money we receive is used primarily to support this vital teaching function.

The University is an internationally renowned institution with a primary obligation to the People of Minnesota. In meeting its obligation, it now provides some form of instruction or educational service to almost every family of our State.

Through its centers of resident college-level instruction in the Twin Cities of Minneapolis and St. Paul, and in Duluth, Morris, and Crookston, through its research centers in various parts of the State, through its independent study (correspondence) programs, through its educational radio and television presentations, and through the continuing education activities sponsored by the General Extension Division and the Agricultural Extension Service—which now reach into all of Minnesota's 87 counties—the University carries on its teaching function on a truly state-wide basis. A partial indication of the number of Minnesotans who are receiving some type of instruction from the University is offered by the figures in the margin.

For many years, we Minnesotans have ranked well above the national average in our demands for higher education. Our University strives to meet these demands, but its ability to do so, now and in the future, is dependent upon the amount of financial support it receives from the Legislature.



## RESEARCH

### Organ Transplants

Every Minnesotan benefits, directly or indirectly, from University of Minnesota research.

### Erosion Control Methods

University research helps attract the outstanding scholars and scientists who teach our sons and daughters—and it serves as an indispensable teaching tool.

### Cosmic Ray Investigations

University research helps Minnesota industry, business, labor, farmers, communities, doctors, and homemakers. In league with University teaching and service, it works toward the full employment of all of Minnesota's natural resources—land, water, forest, air, minerals, and people—and seeks answers to the very real threats of environmental pollution.

### New Varieties of Grain and Fruit

### Prevention, Control of Animal Diseases

Our University is one of the principal research universities in the United States. As such it is a major recipient of Federal government grants and contracts. And as such it attracts gifts and grants from large foundations. These research gifts, grants, and contracts from outside sources are an economic stimulus to our State. They mean fuller employment, larger payrolls, increased sales and purchases, and a higher standard of living for all of us. They help, too, in supporting our University's teaching programs.

### Environmental Pollution Control

### Behavior Modification

But, it is State money that must give the basic support which makes the University's research achievements possible. These achievements are notable and numerous. They include significant pioneer and contributory research in almost every field of investigation. A few examples appear in the margin.

### Computer-Aided Instruction

### Nuclear Research

## SERVICE

### Minnesota Geological Survey

Minnesota industry, business, agriculture, education, governmental agencies, organizations of many varieties, communities, families, and individual citizens long have benefited from the multitude of public services which our University provides.

### Veterinary Diagnostic Service

### Faculty Service to Community Organizations

Public service, which ranks along with teaching and research as one of the three major purposes of the University, ranges in variety from the diagnosis and treatment of human and animal diseases to the geologic mapping of the State which is an aid to the discovery of ore deposits, the location of water supplies, and the selection of suitable industrial sites.

### Cancer Detection Center

### Soil Testing Service

We Minnesotans look to our University for expert studies of our schools and school systems, for advice on improving our dairy herds and poultry flocks, for solutions to our community and urban problems, for answers to our water, air, and soil pollution problems, for cultural radio and television programs, for consultations with faculty members on problems affecting our organizations, for help in meeting problems involving crime and juvenile delinquency, and for scores of other essential services.

### University Hospitals

### Marriage Counseling

### Genetic Counseling

### Center for Urban and Regional Affairs

Our University is striving to provide the services which Minnesotans need, want, and expect from it. Although many services are partially supported by Federal grants, private gifts, and payments by recipients, we need State money to provide the basic organizational support which enables us to meet these insistent demands for University service.

# A LOOK AT THE FUTURE

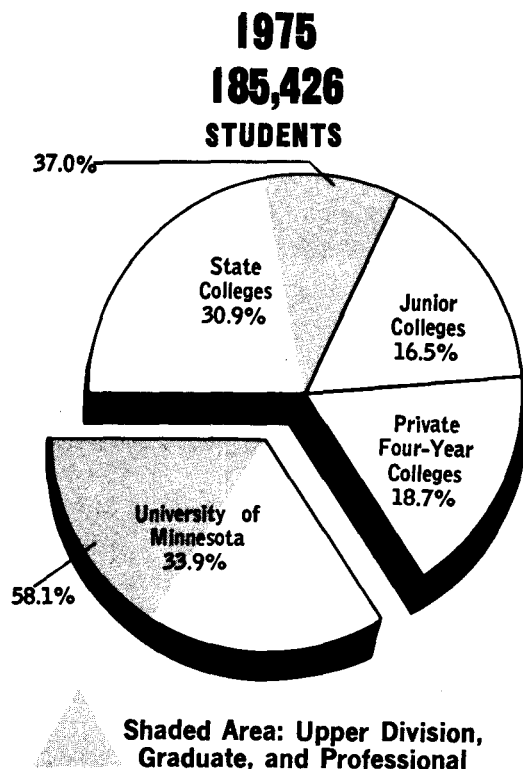
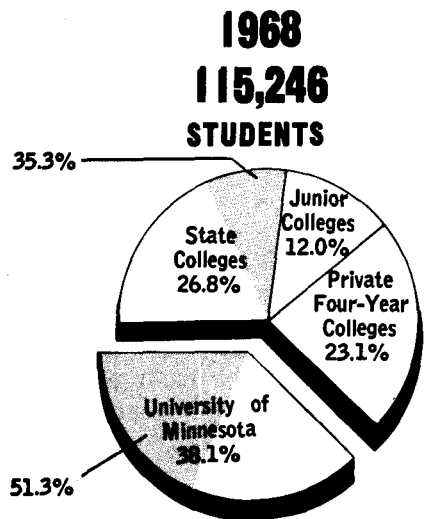
## College-Age Population, Enrollment Trends, Demands on the University

Demands for higher education in our State continue to increase at a rapid and consistent rate as our population grows and as proportionately more and more young people seek an education beyond high school. The University of Minnesota must always be prepared to meet a heavy share of those demands for higher education, especially in the upper division, graduate, and professional areas.

Minnesota's college-age (18 to 21 years) population is climbing fast, from 166,751 in 1954 to 278,773 in 1968, while the proportion of these people attending college in Minnesota also has been zooming upward, from 23 per cent in 1954 to 41.3 per cent in 1968.

Minnesota Higher Education Coordinating Commission projections indicate that of the estimated 303,193 college-age population in the State in 1975, 65.4 per cent will be enrolled in post-secondary education in Minnesota, while in 1980, 66.7 per cent of the 332,068 in that age group will be pursuing higher education programs in the State.

### DISTRIBUTION OF ATTENDANCE



Year	College-Age Youth in Minnesota (18-21)	Number Attending College in State (Full-time Students)	Per Cent Enrollment Ratio
1954	166,751	38,292	23.0
1964	217,706	78,858	36.2
1968	278,773	115,246	41.3
1975	303,193*	198,400*	65.4
1980	332,068*	234,200*	66.7

\*Higher Education Coordinating Commission Projections. Enrollment Estimates for 1975 and 1980 include Area Vocational-Technical Schools and Trade Schools.

Although the University of Minnesota will continue through 1975 to enroll the largest single segment of Minnesota's college students, forecasts show, lower division enrollment in the University will level off as its further growth is concentrated in primarily upper division, graduate, and professional educational programs. Among factors involved in this changing pattern are the controlled growth principle which the University has applied to some of its lower division units and the increasing proportion of Minnesota's lower division students who are enrolling in the fast-growing junior college and State college systems.

University attendance — recorded as 47,534 in the fall quarter of 1968 — is expected to reach 62,850 by 1975, about one third of the Higher Education Coordinating Commission's estimate of Minnesotans' total post-secondary attendance and slightly more than one third of the aggregate estimates of Minnesota colleges for that year.

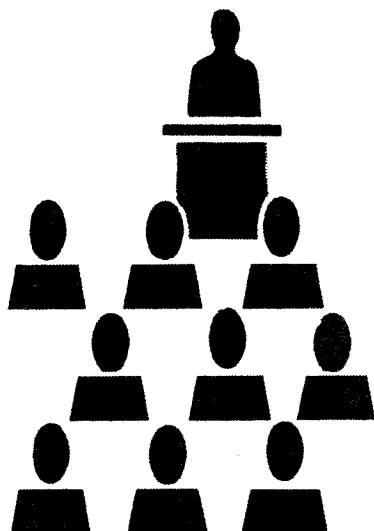
Of the 62,850 students at the University in 1975, it is estimated that 58.1 per cent will be in upper division, graduate, and professional areas, compared with 51.3 per cent of this year's 47,534 students.

University attendance estimates for the next two years, on which our Legislative requests are based, are 48,900 for the fall quarter of 1969 and 51,200 for the fall quarter of 1970. The breakdown of fall quarter enrollment estimates by campus for the two years is as follows:

	1969	1970
Twin Cities Campus .....	41,675	43,450
Duluth Campus .....	5,425	5,800
Morris Campus .....	1,350	1,400
Crookston Campus .....	450	550
Total, All Campuses .....	48,900	51,200

# STUDENT-FACULTY RATIOS

## We Need More Faculty Members To Maintain Effective Teaching



The ability of an educational institution to give high quality instruction is directly related to its having enough teachers for personal, face-to-face relationships with students. Moreover, the number of teachers needed to provide high quality instruction varies with different kinds of instructional tasks or settings. In other words, the underpinning of good instruction is a sufficient number of teachers in relationship to the student body in the various instructional divisions.

The quality of a University of Minnesota education now is threatened and will deteriorate unless the number of faculty members is increased substantially.

The varied instructional activities of the University have been divided into four major categories for purposes of establishing minimal student-teacher ratios for effective instruction. Requests for additional academic staff are calculated on the basis of these ratios and anticipated student enrollments. Faculty needs determined in this way reflect more clearly than ever before the impact of changing proportions of students among the colleges and divisions of the University.

The four categories of instructional programs and the necessary student-faculty ratios are: (1) Group I, lower division, including General College and the lower division (freshman, sophomore) of Arts, Education, Duluth, and Morris — one faculty member for each 20 students; (2) Group II, upper division, including the upper division (junior, senior) of most colleges and the lower division of the technical colleges — one teacher to 16 students; (3) Group III, upper division of technical colleges, upper and lower divisions of professional schools, and all master's degree candidates — one faculty member to 13 students; (4) Group IV, health professions and all doctor of philosophy candidates—one teacher to 6.5 students.

Within the state-wide system of higher education, it is anticipated that the University's enrollment will shift toward increased emphasis upon upper division, graduate, and technical-professional programs. In fact, most if not all future growth in University enrollment will be in Groups II, III, and IV in which class sizes must be relatively small and in which limited use can be made of large lecture sections.

### NEW FACULTY NEEDS

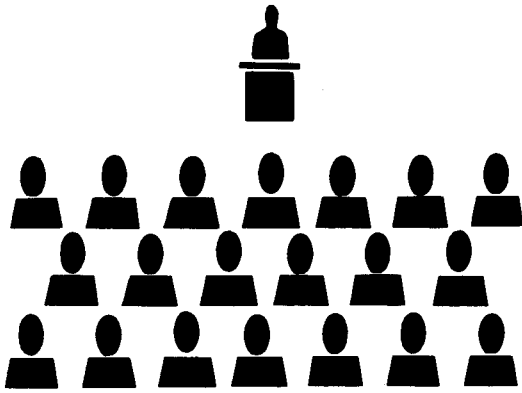
Applied to estimates of enrollment for 1969-70 and 1970-71, the four ratios yield the following needs for additional University teachers —

**1969-70 . . . . 416 New Faculty Members**

**1970-71 . . . . 195 New Faculty Members**

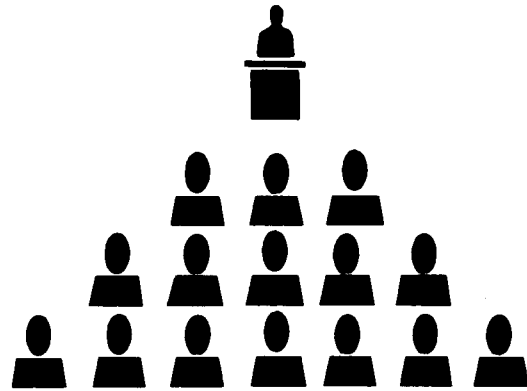
**1969-71 . . . . 611 New Faculty Members**

# STUDENT-FACULTY RATIOS FOR EFFECTIVE TEACHING



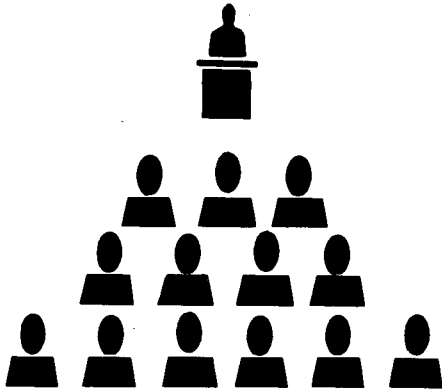
**GROUP I Students 20: 1 Teacher**

General College  
 Lower Division of—  
 College of Liberal Arts  
 College of Education  
 University of Minnesota, Duluth  
 University of Minnesota, Morris



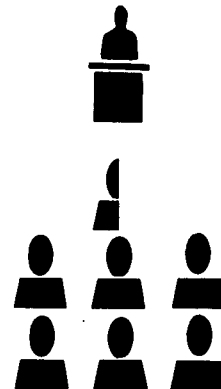
**GROUP II Students 16: 1 Teacher**

University College  
 School of Business Administration  
 School of Home Economics  
 Upper Division of—  
 College of Liberal Arts  
 College of Education  
 University of Minnesota, Duluth  
 University of Minnesota, Morris  
 Lower Division of—  
 Institute of Technology  
 College of Agriculture, Forestry  
 (Less Home Economics)



**GROUP III Students 13: 1 Teacher**

Graduate Students—Master's Level  
 College of Pharmacy  
 College of Biological Sciences  
 Law School  
 Crookston Technical Institute  
 All Para-Medical Students (Nursing, etc.)  
 Upper Division of—  
 Institute of Technology  
 College of Agriculture, Forestry  
 (Less Home Economics)



**GROUP IV Students 6.5: 1 Teacher**

Medical School  
 School of Dentistry  
 College of Veterinary Medicine  
 Graduate Students—  
 Doctor of Philosophy Level

# FACULTY SALARIES -

## We Need State Money to Recruit and Retain an Outstanding Faculty

### WHERE MINNESOTA STANDS

Average Cash Salaries Plus Fringe Benefits Compared With State-Supported Big Ten Schools and the University of California

**1968-69**

<b>Nine-Month* Staff</b>	<b>Twelve-Month Staff</b>
--------------------------	---------------------------

**Professors**

**3rd out of 10                  6th out of 10**

**Associate Professors**

**4th out of 10                  5th out of 10**

**Assistant Professors**

**7th out of 10                  6th out of 10**

**Instructors**

**7th out of 10                  2nd out of 10**

\*Represents About 67 Per Cent of Full-time Faculty.

### REGENTS' REQUEST FOR FACULTY SALARY IMPROVEMENT

<b>1969-70</b>	<b>1970-71</b>
<b>10 Per Cent</b>	<b>10 Per Cent</b>
<b>\$4,373,223</b>	<b>\$5,424,631</b>

A genuinely great university is recognized by the quality of its students and its faculty.

The University must continue to recruit and keep superior teachers if it is to avoid serious deterioration in the quality of education it provides. It must be enabled financially to compete realistically with other schools and with government and industry for the services of those teachers. Salaries and fringe benefits are determining factors in this competition.

The University is deeply grateful to the 1967 Legislature for the strides taken to move Minnesota toward the median position in the ranking of average salaries and fringe benefits among the state-supported schools in the Big Ten and in the University of California. Data from these schools, which are comparable to the University in mission and scope, are used as indicators of the University's competitive standing because of our ability to obtain strictly comparable information. However, competitive pressure on the University now extends far beyond these institutions and has increased greatly from schools such as the State University of New York and the University of Texas. As other states are realizing the importance of a strong university to their economic and social growth, competition for outstanding teachers is intensifying across the nation.

The University has been able to make substantial progress toward the median salary position in the last two years with the help of the Legislature. In order to protect those gains and to continue the progress critically needed if we are to recruit and retain the high quality staff needed to maintain the greatness of our University, we are requesting a 10 per cent increase in funds for faculty compensation for each year of the 1969-71 biennium. Our request takes into consideration substantial increases anticipated in the salary level of our competition and the real losses caused by inflation in the last two years.



# CIVIL SERVICE NEEDS

## Additional Staff, Salary Adjustments Required

### ADDITIONAL CIVIL SERVICE STAFF NEEDED

1969-70	1970-71
<b>Enrollment Related</b>	
<b>270</b>	<b>126</b>
<b>Wilson Library</b>	
<b>42</b>	<b>11</b>
<b>New Buidings</b>	
<b>31</b>	<b>24</b>
<b>343</b>	<b>161</b>
<b>1969-71 Total</b>	
<b>504</b>	

### REQUESTS FOR CIVIL SERVICE SALARY ADJUSTMENTS

1969-70	1970-71
<b>To Adjust Salary Base</b>	
<b>\$485,399</b>	<b>- 0 -</b>
<b>Proposed Pay Plan</b>	
<b>\$2,523,724</b>	<b>- 0 -</b>
<b>July 1970 Increment</b>	
<b>- 0 -</b>	<b>\$1,002,951</b>

### ADDITIONAL CIVIL SERVICE STAFF

Civil Service staff members provide close support for the University's teaching program. They perform essential functions which can be done more economically and more effectively by those without teaching responsibilities. Thus, their valuable service frees the faculty from many non-teaching duties. Laboratory assistants, counselors, audio-visual technicians, business office staff members, admissions clerks, and other Civil Service people form an indispensable auxiliary to the teaching staff. Consistent with our request for increases in the teaching staff and on the basis of anticipated increases in the number of students, we are asking the Legislature — to fill enrollment-related needs — for an additional 270 Civil Service employees for 1969-70 and for 126 more for 1970-71, a total of 396.

The new Wilson Library on the West Bank of the Twin Cities Campus/Minneapolis, which opened in the fall of 1968, cannot be made fully operational until necessary additional staff is made available. For this purpose we are asking for 42 new Civil Service positions in 1969-70 and an additional 11 in 1970-71 for a total of 53.

During the 1969-71 biennium, newly added facilities on the Twin Cities, Morris, Duluth, and Crookston Campuses will be occupied. Custodial staff required for these buildings number 31 for the first year and 24 for the second year, a total of 55.

### CIVIL SERVICE SALARY ADJUSTMENTS

Civil Service merit increases were funded by the 1967 Legislature at 50 per cent of their cost. To fund these and other adjustments in Civil Service salaries on a continuing basis consistent with the policy of the State Classified Service requires upward adjustment in the University's Civil Service salary base of \$485,399 in 1969-70.

A new pay plan adopted by the State Civil Service Board will become effective July 1, 1969, if approved by the Legislature. As the University is required by law to maintain comparability with the rates of State Civil Service employees, an appropriation of \$2,523,724 is needed to meet the cost of assigning present employees into the proposed pay plan, allowing a minimum of 8 per cent for all employees.

In conjunction with the implementation of the pay plan, the State Civil Service Board is recommending a 4 per cent increment to all Civil Service employees on July 1, 1970. The cost of this increment for University Civil Service employees is estimated at \$1,002,951.

# SUPPLIES, EXPENSE, and EQUIPMENT REQUESTS for 1969-71

In calculating the University's supplies, expense, and equipment requests for 1969-71, seven factors have been taken into consideration: departmental supplies, expense, and equipment budgets; Plant Services operating and equipment estimates; increased costs of Social Security and the Minnesota State Retirement System; the University's portion of the State Health Plan; special needs of University Libraries; equipment replacement in Dentistry; and expanding utilization of computer services. Our requests in this area call for an increase of \$5,067,387 (to \$23,833,074) for the first year of the biennium and an additional increase of \$2,077,746 (to \$25,910,820) for the second year.

Due in large measure to price increases and the lag in past appropriations to meet changing instructional patterns, including changes in the technology of instruction, college and departmental supply, expense, and equipment resources are dangerously low. The tools of teaching and research are in most instances expensive and short-lived for practical teaching purposes. So that we may produce graduates trained in modern techniques with up-to-date equipment and training aids, our departmental supply and expense budgets must be revitalized. In addition, low supply and expense budgets in some instances are hampering the recruiting of staff and department heads. Thus, we are asking an appropriation increase of \$2,501,645 in 1969-70 and an additional increase of \$1,313,929 for 1970-71.

Operating costs of authorized new buildings such as heat and electricity which will be completed on the various campuses and stations in the next two years will require an appropriation increase of \$618,995 for 1969-70 and an additional increase of \$425,213 for the following year.

We will need an appropriation increase of \$730,634 for the first year plus \$355,112 above that amount for the second year to meet increased costs of Social Security and the Minnesota State Retirement System. Factors involved in the increases include additional staffing, Civil Service salary increases, and F.I.C.A. rate increases.

Funding of the State Health Plan for the new staff members requested for the University will require an increase of \$132,413 for 1969-70 and an additional increase of \$55,692 for the next year.

Constant advances in both numbers of publications and unit costs of books make it imperative that we ask an increased appropriation to preserve and maintain the holdings of the University Libraries as an important State asset for all educational programs. Funds are urgently needed to strengthen the Duluth, Morris, and Crookston libraries and to begin a college-level library at Waseca. On the Twin Cities Campus, further pressures for book acquisitions result from the rising percentage of students now enrolled in upper division, honors, and graduate programs. Accordingly, we are asking a recurring appropriation of \$250,000 for the Duluth, Morris, Crookston, and Waseca Campus libraries and of \$250,000 for the Twin Cities Campus libraries.

We are requesting a non-recurring appropriation of \$202,500 for 1969-70 to replace obsolete equipment in the School of Dentistry. The new equipment will be readily transferable to the new Dental School facilities now being planned.

The use of computers has become one of the most rapidly growing aspects of higher education. Until recently, computers have been used largely for research purposes and as such have derived most of their support directly from research grants and contracts. During the last few years, many new instructional uses of computers have been developed, and they are now an integral part of university instructional programs. At the University of Minnesota, several thousand students now use computers — in the sciences, in engineering, in the social sciences and business administration, in engineering design, and in computer-assisted instruction. Our ability to meet the University's computer needs requires additional budgetary support. We are asking an increase of \$381,200 for 1969-70 and an added increase of \$130,300 for 1970-71 for additional technical staff, for support of instructional programs using time-shared systems, and for partial support of operating costs.

# INDEX TO SUMMARIES OF UNIVERSITY NEEDS AND REGENTS' REQUESTS

Pages 14-18— BUILDINGS

LEGISLATIVE REQUEST 1969-71

<b>Twin Cities Campus</b>	
Minneapolis .....	\$54,634,301
West Bank .....	(24,582,851)
East Bank .....	(30,051,450)
St. Paul .....	27,059,560
Como Research and Service Area .....	3,255,000
<b>Twin Cities Campus Total .....</b>	<b>\$ 84,948,861</b>
Duluth Campus .....	11,268,000
Morris Campus .....	4,834,315
Crookston Campus .....	2,195,000
Experiment Stations .....	1,780,500
<b>Total Building Needs .....</b>	<b><u><u>\$105,026,676</u></u></b>

Page 19—

**HEALTH SCIENCES CAPITAL  
DEVELOPMENT PROGRAM (Step 1) .....** **\$ 28,318,000\***

Pages 20-24—

**CURRENT OPERATIONS**

**Legislative  
Appropriation  
1968-69**

**Legislative  
Request  
1969-70**

**Legislative  
Request  
1970-71**

Pages 20-21—

**General Operations  
and Maintenance .....**

\$60,095,426

\$ 80,838,004

\$ 93,078,354

Page 22—

**Technical Institute,  
Crookston .....**

506,509

919,532

1,100,431

Page 22—

**Technical College,  
Waseca .....**

.....

34,295

130,727

Page 22—

**University Hospitals .....**

7,034,853\*\*

6,730,796\*\*

7,289,403\*\*

Pages 23-24—

**Special State  
Appropriations .....**

5,482,202

11,732,490

12,749,637

**Current Operations Totals .....**

**\$73,118,990\*\*\***

**\$100,255,117**

**\$114,348,552**

\*Of this amount, \$13,500,000 will be sought from Federal sources.

\*\*Includes counties' share of indigent patient care.

\*\*\*Includes transfers of open appropriations for employee benefits.

# BUILDING AND LAND NEEDS

## SUMMARY BY CAMPUS

### TWIN CITIES CAMPUS

#### MINNEAPOLIS—WEST BANK

##### New Buildings

Planning Funds for Law School Building (4% of \$12,395,500 and 1% of \$3,098,900) .....	\$ 526,800
Communications Buildings, Phase I .....	4,055,000
Humanities Office Building, Phase I .....	7,204,900
Art Building Addition, Phase I .....	348,000
Performing Arts Building .....	6,685,091
Art History-University Gallery Facility .....	2,791,000
Planning Funds for Physical Education Building .....	164,000
Commuter Food Facility and Study Space .....	400,000

Sub-Total .....\$22,174,791

##### Remodeling and Rehabilitation

Blegen Hall and Business Administration (3rd Floors) ....	\$ 133,700
Air Conditioning West Bank Buildings, Phase I .....	290,000

Sub-Total .....\$ 423,700

##### Land Needs

Purchase of Remaining Property on West Bank .....	\$ 1,984,360
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TOTAL 1969 REQUESTS, WEST BANK .....\$24,582,851

#### MINNEAPOLIS—EAST BANK

##### New Buildings

Complete Addition to Bell Museum .....	\$ 270,600
Education Office and Classroom Building .....	6,114,700
State Board of Health-Psychology Building (Completion of Remodeling \$350,000) (Demolition of Old Psych. Bldg. \$50,000) (Addition for Psychology \$5,354,700) .....	5,754,700
Engineering, Phase 1 (Civil Engineering Building \$3,886,000) (Plus 500 Kiloton Testing Machine \$135,000) (Electrical Engineering Building \$6,433,700) .....	10,454,700
Chemistry-Library Link .....	318,500
Science Classroom Building, Phase II .....	2,466,400

Sub-Total .....\$25,379,600

##### Remodeling and Rehabilitation

Walter Library, Phase III .....	\$ 274,500
Installation of Elevator, Mayo Building .....	151,000
Main Engineering (Including Elevator) .....	485,650
Nolte Center for Continuing Education .....	120,000
Jackson Hall, Completion of 4th Floor and Remodeling Laboratories .....	396,000
Zoology Building .....	612,700

Sub-Total .....\$ 2,039,850

# BUILDING AND LAND NEEDS

## Utilities and Service Facilities

Hospital Primary Electric System .....	\$ 150,000
Campus Street Improvements .....	792,000
Primary Electric Distribution System, Phase III .....	350,000
Sewer and Water Extensions .....	190,000
Sub-Total .....	<u>\$ 1,482,000</u>

## Land Needs

Land for Physical Education (South of Stadium) .....	\$ 150,000
Land East of Oak Street, Phase I .....	1,000,000
Sub-Total .....	<u>\$ 1,150,000</u>

TOTAL 1969 REQUESTS, EAST BANK .....

\$30,051,450

TOTAL 1969 REQUESTS, MINNEAPOLIS .....

\$54,646,301

## SAINT PAUL

### New Buildings

Animal Science Facility, Phase I .....	\$10,165,900
(Institute of Agriculture, College of Veterinary Medicine, and College of Biological Sciences)	
Teaching Resource Center	\$3,694,500
Office-Laboratory Building (Anatomy, Physiology, Reproduction	\$4,438,400)
Meats Processing Laboratory and Teaching Building	\$2,033,000
Classroom-Office Building (Ag., Econ., Soc.) .....	3,964,100
Forest Products, Phase III .....	1,147,400
Agronomy Greenhouse and Headhouse .....	222,800
Plant Pathology Greenhouse and Field Laboratory .....	371,000
Soil Science (3rd Floor Completion and Greenhouse) .....	151,300
Home Economics Facility .....	641,400
Planning Funds (\$279,400 — 4% of \$4,586,800 and 1% of \$9,586,700)	
Housing Environmental Research Facility (\$362,000)	
Farm Maintenance Service and Storage Building .....	676,100
Biological Science Facility .....	8,790,600
Sub-Total .....	<u>\$26,130,600</u>

### Remodeling and Rehabilitation

Snyder Hall .....	\$ 149,500
Rehabilitation of Teaching Facilities .....	181,460
Sub-Total .....	<u>\$ 330,960</u>

### Utilities and Service Facilities

Primary Electrical Distribution System .....	\$ 210,000
Tunnel Extension to Greenhouse .....	200,000
Road Repaving, Widening, Surfacing and Lighting .....	133,000
Water and Gas Main Extensions .....	55,000
Sub-Total .....	<u>\$ 598,000</u>

TOTAL 1969 REQUESTS, SAINT PAUL .....

\$27,059,560

# BUILDING AND LAND NEEDS

## COMO SERVICE AND RESEARCH AREA

### New Buildings

Archives Research Center Building .....	\$ 805,000
Transportation Building .....	1,300,000
Purchase and Remodel Computer Center Building .....	1,150,000

TOTAL 1969 REQUESTS, COMO RESEARCH AND SERVICE AREA ..... \$ 3,255,000

TOTAL 1969 REQUESTS, TWIN CITIES ..... \$84,948,861

## DULUTH CAMPUS (U.M.D.)

### New Buildings

Administration Building .....	\$ 1,900,000
Plant Services Center, Phase I .....	460,000
Classroom and Office Building .....	1,900,000
Classroom and Laboratory Building .....	2,400,000
Physical Education Facility .....	2,100,000
Lecture Hall and Concourse .....	400,000
Health Service (25% of Cost) .....	56,000
Completion of Planetarium-Observatory Complex .....	142,000

Sub-Total ..... \$ 9,358,000

### Utilities and Service Facilities

Rehabilitation and Expansion of Campus Electrical Distribution System, Phase I .....	\$ 250,000
General Landscaping and Campus Improvement .....	100,000

Sub-Total ..... \$ 350,000

### Housing and Food Service

Service Center and Food Service for Residence Halls (Phase II — 25% of Cost) .....	\$ 275,000
Single Student Housing, 400 Students (25% of Cost) .....	635,000

Sub-Total ..... \$ 910,000

### Land Needs

Add 31 Acres to Campus (Includes 45 Houses) .....	\$ 650,000
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TOTAL 1969 REQUESTS, DULUTH CAMPUS ..... \$11,268,000

## MORRIS CAMPUS (U.M.M.)

### New Buildings

Residence Hall (300 Units — 25%) .....	\$ 412,500
Food Service Facility (50% of Cost) .....	350,000
Humanities Building: Speech-Theatre Arts, Music, Art, TV Studios; Construction of Phase I and Planning for entire building (63,000 sq. ft.) .....	2,450,000
Library, Phase II (27,500 sq. ft.) .....	890,000
Garage, Shops, and Storage, Phase I .....	200,000

Sub-Total ..... \$ 4,302,500

# BUILDING AND LAND NEEDS

## Remodeling and Rehabilitation

Remodeling and Rehabilitation of Old Gymnasium .....	\$ 110,000
Rehabilitaion of Behmler Hall .....	120,000
Sub-Total .....	<u>\$ 230,000</u>

## Utilities and Service Facilities

Electrical Distribution System, Phases II and III .....	\$ 138,000
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## Other Improvements

Roads, Curbs, and Gutters, Phase II .....	\$ 118,815
Removal of Railroad Tracks, Old Heating Plant and Grading .....	20,000
Landscape, Sidewalks, and Campus Development .....	25,000
Sub-Total .....	<u>\$ 163,815</u>

TOTAL 1969 REQUESTS, MORRIS CAMPUS ..... \$ 4,834,315

## TECHNICAL INSTITUTE—CROOKSTON

### New Buildings

Classroom Building .....	\$ 1,525,000
Owen Hall Addition and Remodeling for Agricultural Engineering Technology Programs .....	185,000
Physical Education Building, Addition and Renovation ...	205,000
Sub-Total .....	<u>\$ 1,915,000</u>

### Remodeling and Rehabilitation

Remodeling of Health Service Building for Student Activity Program .....	\$ 40,000
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### Utilities and Service Facilities

Maintenance Shop and Vehicle Storage Addition to Heating Plant .....	\$ 45,000
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### Other Improvements

Storm Sewer and Repair Curbing, Catch Basins and Paving: Replacement of Sanitary Sewer Lines on Campus and to City Connection; Development of North Entrance to Campus; Change in Campus Drainage .....	\$ 195,000
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TOTAL 1969 REQUESTS, CROOKSTON ..... \$ 2,195,000

## EXPERIMENT STATIONS

### SOUTHERN EXPERIMENT STATION—WASECA

Dairy Management Research Facility and Centralized Forage Storage .....	\$ 145,000
Centralized Grain Drying and Storage Facility .....	35,000
Comprehensive Water Management System .....	85,000
Machinery Storage and Maintenance Facility .....	25,000
Research Greenhouses .....	50,000
Campus Lighting, Parking Lot and Roadway .....	20,000

TOTAL 1969 REQUESTS ..... \$ 360,000

### AGRICULTURAL EXPERIMENT STATION—ROSEMOUNT

Chicken Research Facility .....	\$ 40,000
Swine Research Facility .....	185,000

TOTAL 1969 REQUESTS ..... \$ 225,000

# BUILDING AND LAND NEEDS

## NORTH CENTRAL EXPERIMENT STATION—GRAND RAPIDS

Potato Storage .....	\$ 30,000
Silo 20' x 50' .....	10,000
Road Resurfacing .....	20,000
Machinery Storage .....	10,000

TOTAL 1969 REQUESTS .....\$ 70,000

## NORTHWEST EXPERIMENT STATION—CROOKSTON

Research Equipment Facilities .....	\$ 48,000
Farm Shop — 2400 sq. ft.	
Equipment and Machinery Shelter—8000 sq. ft.	
Agronomy and Horticulture Field Laboratory—4000 sq. ft.	
Surfacing of Roadways and Heavy Operational Areas .....	20,000
Experimental Animal Handling Facility — Cattle .....	7,500

TOTAL 1969 REQUESTS .....\$ 75,500

## SOUTHWEST EXPERIMENT STATION—LAMBERTON

Office and Continuing Education Center .....	\$ 125,000
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TOTAL 1969 REQUESTS .....\$ 125,000

## WEST CENTRAL EXPERIMENT STATION—MORRIS

Sheep Research Facility .....	\$ 28,000
Herdsmen Residence .....	15,000
Garage and Shop Facility .....	30,000
Roads and Drainage .....	15,000

TOTAL 1969 REQUESTS .....\$ 88,000

## FOREST RESEARCH CENTER—CLOQUET

Student Classroom, Library-Study Hall, Office	
Laboratory Building .....	\$ 500,000
Student Cabins (Four) .....	48,000
Forest Road Improvement, Culverts and Gravel .....	20,000

TOTAL 1969 REQUESTS .....\$ 568,000

## HORTICULTURE RESEARCH CENTER—EXCELSIOR

Replacement of Machine Storage Buildings .....	\$ 23,000
Tile Drainage for poorly drained areas .....	10,000

TOTAL 1969 REQUESTS .....\$ 33,000

## LANDSCAPE ARBORETUM—EXCELSIOR

Shop and Storage Facilities .....	\$ 65,000
Bituminous Surfacing of Roads .....	49,000

TOTAL 1969 REQUESTS .....\$ 114,000

## LAKE ITASCA FORESTRY AND BIOLOGICAL STATION—ITASCA

Education Building (Classroom-Residence) .....	\$ 55,000
Laboratory (Teaching-Research) .....	25,000
Completion of Station Electrical System	
Renovation, Phase II .....	42,000

TOTAL 1969 REQUESTS .....\$ 122,000

TOTAL 1969 REQUESTS—AGRICULTURAL  
EXPERIMENT STATIONS .....\$ 1,780,500

GRAND TOTAL, BUILDING REQUESTS (Does not  
include Health Sciences Program request) .....\$105,026,676



# HEALTH SCIENCES CAPITAL DEVELOPMENT PROGRAM

## TWIN CITIES CAMPUS

The University's Health Sciences Capital Development Program is designed to enhance and to preserve for Minnesotans the high quality health science training and service to which they have become accustomed and which has brought world-wide recognition to the State.

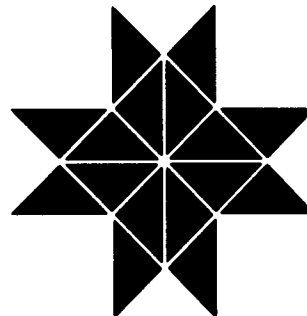
The program has been developed through extensive studies by more than 100 experts in the various health-related fields over a period of several years. Involved in Health Sciences Center expansion planning are the College of Pharmacy, the School of Dentistry, the College of Veterinary Medicine, and the four constituent units of the College of Medical Sciences: the Medical School, the School of Nursing, the School of Public Health, and University Hospitals. Vital to the planning has been the study of health manpower needs of the area conducted by the Hill Family Foundation from 1964 to 1966 at the request of the Board of Regents.

In response to the Hill report and on the basis of its own planning studies, the University requested and received from the 1967 Legislature \$650,000 for land purchase and \$500,000 for preliminary planning for the Capital Development Program. Plans for the program were approved by the Regents in April 1968, and form the basis for the 1969 Legislative request.

When fully implemented, the Capital Development Program will provide for an increase in total enrollments in all health science fields from the present 3,500 to more than 5,200 by 1973. This includes expansion in entering Medical School classes from 160 to 200 and in entering School of Dentistry classes from 115 to 150 — in keeping with recommendations of the Hill report. The increase of more than 1,500 students in the health sciences will include — in addition to undergraduate medical and dental students — nursing students, graduate students, and students in occupational therapy, physical therapy, medical technology, dental hygiene, public health, x-ray technology, and other health sciences and vocations.

The overall Health Sciences Center program provides for modernization and renovation of the existing Health Sciences Center structures and the construction of new facilities under a master plan which calls for an initial expansion to be completed by 1973-74, at an estimated cost of \$67,655,320. This plan establishes a flexible framework for growth through the next 20 years. At least half of the funds required for the program will be sought from Federal and other sources.

Asked of the Legislature is a \$28,318,000 building program which includes \$26,916,000 for the construction of new space in the area east of Millard Hall to house the new School of Dentistry, teaching laboratories for the basic sciences, and out-patient facilities. The master plan places priority on the construction of basic sciences teaching facilities to allow the earliest possible expansion of medical and dental classes. The request also includes \$1,052,000 for completion of planning documents for the initial expansion phase of the program and \$350,000 for completion of architectural planning for new College of Pharmacy facilities which are expected to cost \$7,779,200 and for which funding will be asked of the 1971 Legislature.



### HEALTH SCIENCES CAPITAL DEVELOPMENT

#### STEP I

New Construction .....	\$26,916,000
(For Dentistry, Basic Sciences, etc.)	
Completion of Planning Documents .....	1,052,000
(For STEPS II and III)	
Completion of Planning Documents .....	<u>350,000</u>
(For Pharmacy Facilities)	
<b>TOTAL FOR STEP I .....</b>	<b>\$28,318,000*</b>

\*Approximately \$13,500,000 of this amount will be sought from Federal sources.

# GENERAL OPERATIONS AND MAINTENANCE

## University Needs and Requests for 1969-71

It is the General Operations and Maintenance appropriation from the Legislature which enables the University to meet the costs of carrying on its basic educational mission. Faculty and civil service salaries, library expenses, the costs of upkeep and operation of buildings and grounds, plus general and administrative costs of the University are paid from the overall General Operations and Maintenance budget.

Although part of this "lifeblood" need of the University is met by income from student tuition and from general income, the State money provided by the Legislature for General Operations and Maintenance is essential to the University's continued existence.

To determine how much we must ask the Legislature for General Operations and Maintenance, we first ascertain the University's total needs for these purposes for each of the next two years and then subtract the estimated tuition and other income for the corresponding period. Other income includes that from overhead payments for research contracts and grants, and from interest on University investments. As the accompanying table shows, the remainder forms our request to the Legislature.

Among the major expenses covered in the General Operations and Maintenance needs are the following:

- Instructional costs of all colleges, schools, and departments on the Twin Cities, Duluth, and Morris Campuses.
- The cost of the University Libraries.
- Administrative and general costs of the University.
- The cost of the sub-collegiate schools.
- The cost of research stations and centers.
- Supplies, expense, and equipment requirements including the cost of computer services.
- The cost of operating and maintaining buildings and grounds including heat, light, repairs, and custodial services.

### SUMMARY EXPLANATION OF THE REGENTS' GENERAL OPERATIONS AND MAINTENANCE REQUEST FOR 1969-71

	<u>1969-70</u>	<u>1970-71</u>
FOR—		
Its General Operations and Maintenance, the University will need .....	\$109,665,848	\$122,752,830
BUT—		
University income from student tuition and general income, it's estimated, will be .....	<u>\$ 28,827,844</u>	<u>\$ 29,674,476</u>
THUS—		
We are asking the Legislature for .....	<u><u>\$ 80,838,004</u></u>	<u><u>\$ 93,078,354</u></u>

# GENERAL OPERATIONS AND MAINTENANCE

## ANALYSIS OF INCREASES

	Increase Each Year Over Previous Year	
	<u>1969-70</u>	<u>1970-71</u>
<b>ACADEMIC STAFF</b>		
Salary Improvements and Promotions .....	\$ 4,373,223	\$ 5,424,631
Additional Staff .....	6,140,860	3,139,755
<b>CIVIL SERVICE STAFF</b>		
Salary Adjustments		
To Adjust Salary Base .....	485,399	—0—
Proposed State Pay Plan		
Pay Plan .....	2,523,724	—0—
Annual Increment .....	—0—	1,002,951
Additional Staff .....	1,874,867	865,255
<b>MECHANICS PAYROLL</b>		
Salary Adjustments .....	137,362	147,527
<b>SUPPLIES, EXPENSE, AND EQUIPMENT</b>		
Departmental Supply and Expense Budgets .....	2,501,645	1,313,929
Physical Plant — Operating Costs of New Buildings .....	618,995	425,213
F.I.C.A. and M.S.R.S. Increases .....	730,634	355,112
State Health Plan .....	132,413	55,692
Libraries .....	500,000	—0—
Equipment — Dentistry .....	202,500	(-202,500)
Computer Services .....	<u>381,200</u>	<u>130,300</u>
TOTAL INCREASES .....	\$20,602,822	\$12,657,865
LESS INCREASE IN GENERAL INCOME .....	<u>(-139,756)</u>	<u>417,515</u>
NET INCREASE IN REQUEST .....	<u>\$20,742,578</u>	<u>\$12,240,350</u>

## WASECA TECHNICAL COLLEGE

The 1967 Legislature called upon the Regents to review the present program of the Southern School of Agriculture at Waseca and to make recommendations for the future use of the school's facilities. The study, to be coordinated with the planning efforts of the Higher Education Coordinating Commission and the State Junior College Board, was to include the feasibility of phasing out high school level instruction and the need for and desirability of developing a two-year technical agricultural college on the Waseca Campus.

A University study committee recommended that the School of Agriculture be phased out and that a new two-year semiprofessional program at the college level be established to focus on the general needs of agriculture and to lead to the Associate in Agriculture degree. The recommendations were accepted by the Regents and later concurred in by the Coordinating Commission. If the Legislature approves, development of the college program will begin in 1969, and the first students will be admitted in the fall of 1971.

To prepare for launching the new Waseca Technical College, we are asking for \$34,295 for 1969-70 and \$130,727 for 1970-71.

## CROOKSTON TECHNICAL INSTITUTE

The University of Minnesota Technical Institute — Crookston opened in 1966 with an enrollment of 184 and graduated its first class in the spring of 1968. Current enrollment is 371, and enrollment estimates are for 450 students in the fall of 1969 and 550 in the fall of 1970.

Based on the rapid enrollment growth and projected expansion of the curriculum within established programs, budget needs of the Institute are \$1,040,072 for 1969-70 and \$1,247,431 for 1970-71. Tuition income will amount to \$120,540 for the first year and \$147,000 for the second. The difference between budget needs and tuition income represents our request to the Legislature — \$919,532 for 1969-70 and \$1,100,431 for 1970-71. For the current year, the Legislature appropriated \$506,509, and tuition is expected to provide \$102,250.

## UNIVERSITY HOSPITALS

Nucleus of one of the nation's outstanding medical centers and principal teaching hospital of the College of Medical Sciences, University Hospitals provides care for the patients who help in training future doctors and other medical personnel. Two new requests are included in the Hospitals request for 1969-71 — Major Medical and Catastrophic Illnesses and the Department of Community Services. The itemized Hospitals requests below reflect increases corresponding to those asked for the rest of the University for faculty and civil service salaries and the decrease in the number of indigent patients resulting from Medicare.

UNIVERSITY HOSPITALS NEEDS	Appropriation 1968-69	Request 1969-70	Request 1970-71
University of Minnesota Hospitals			
From the State .....	\$2,406,002	\$1,775,000	\$1,962,500
From the Counties .....	<u>2,137,200</u>	<u>1,775,000</u>	<u>1,962,500</u>
TOTAL .....	\$4,543,202	\$3,550,000	\$3,925,000
Psychopathic Hospital .....	\$1,052,531	\$1,239,551	\$1,320,208
Child Psychiatric Hospital .....	403,319	457,899	479,282
Rehabilitation Center .....	1,035,801	1,213,346	1,279,913
Dept. of Community Services .....		70,000	85,000
Major Medical and Catastrophic Services .....		<u>200,000</u>	<u>200,000</u>
TOTAL	<u>\$7,034,853*</u>	<u>\$6,730,796*</u>	<u>\$7,289,403*</u>

\*Includes Counties' share of indigent patient care and open appropriations for employee benefits.

# SPECIAL STATE APPROPRIATIONS — Special Research and Public Service Projects for the Direct Benefit of the People of the State

	Legislative Appropriation 1968-69 <sup>(1)</sup>	Legislative Request 1969-70	Legislative Request 1970-71
Prehistoric Archaeology (MRC) .....	\$ 38,080	\$ 38,000	\$ —0—
Study of Lakeshore Development Trends (MRC) .....	87,588	50,600	—0—
Agricultural Extension Service .....	1,736,093	3,528,569	4,628,674
General Agricultural Research .....	1,128,654	2,198,301	2,677,739
Agricultural Research — Rosemount .....	177,111	194,565	200,385
Hybrid Corn Maturity Tests <sup>(2)</sup> .....	(18,164)	(26,000)	(26,000)
Tuition & Transportation Aid for Students of Agricultural School .....	29,400	22,500	22,500
Potato Processing Research Laboratory .....	25,868	30,058	31,430
Soybean Research .....	123,431	192,463	226,730
Forest Research Center — Cloquet .....	50,111	82,015	85,441
Research in Vegetation Management in State Park Recreation Areas (MRC) .....	34,186	55,000	—0—
Soils Survey .....	60,029	95,000	—0—
Wild Rice Research .....		68,692	124,858
Lake of Woods—Rainy Lake Commission .....		64,235	88,670
World Agriculture, Market Development—Minn. Produce .....		160,194	173,264
Veterinary Diagnostic Laboratory .....	144,386	286,169	348,509
Livestock Sanitary Board—Testing of Poultry <sup>(2)</sup> .....	(57,656)	(67,240)	(70,602)
Investigations of Bovine Infertility, Abortions .....		60,052	64,372
Experiments in the Beneficiation of Manganiferous and Low Grade Ores .....	96,530	110,274	115,768
Geological Survey .....	80,556	140,000	140,000
Beneficiation of Industrial Minerals, Nonferrous Deposits .....	57,400	84,127	88,247
Experiments in Beneficiation of Manganiferous and Low Grade Ores and in Direct Process Bene- ficiation of Ores of the Cuyuna Range .....	118,413	138,448	144,481
Limnological Research .....	50,482	100,000	—0—
Geological Mapping (MRC) .....	141,445	160,000	—0—
State-wide Geological Mapping—Surface (MRC) .....		140,000	—0—
Detailed Geological Mapping (MRC) .....		200,000	—0—
Ore Estimate Division <sup>(4)</sup> .....	35,318	42,096	43,956
General Research <sup>(3)</sup> .....	184,094	310,000	310,000
Medical & Cancer Research .....	140,291	200,000	200,000
Bureau of Business Research .....	43,366	64,654	78,198
Industrial Relations Education Program .....	80,749	136,894	143,057
Psychiatric Research Fund .....	133,863	146,366	155,422
Control of Hypercholesterolemia .....	13,000	25,000	25,000
Multiple Sclerosis; Other Neurological Problems .....	145,940	210,600	223,043
Family Practice and Community Health .....		288,408	466,062
Planning for Expanded Medical Training .....		106,950	—0—
Institute of Child Development .....	64,049	103,286	110,615
Special Education Training and Research Program .....	101,255	158,985	188,007
Business and Economic Research, Duluth .....		15,000	17,000
Training for Careers in Fire Prevention and Protection .....	10,014	61,186	62,261
Rochester Extension Center .....		147,700	158,215
Law Enforcement Education .....		113,500	153,752
Museum of Natural History .....		94,957	102,394
Special Assessments — All Campuses .....		85,045	—0—
Matching Funds — NDEA Loan Fund .....	217,500	252,991	263,825
Center for Urban and Regional Affairs .....		551,000	705,000
Center for State-wide Curriculum Studies .....		125,000	132,762
Graduate Fellowships .....		50,000	50,000
Cedar Creek — Land Purchase (MRC) .....	103,000	125,610	—0—
Landscape Arboretum — Land Purchase (MRC) .....	30,000	118,000	—0—
<b>Total</b>	<b>\$ 5,482,202</b>	<b>\$11,732,490</b>	<b>\$12,749,637</b>

(1) Includes open appropriations for employee benefits and biennial allocations made through Minnesota Resources Commission (MRC).

(2) Not included in totals, transfer of appropriation from Department of Agriculture.

(3) Includes Minnesota Institute of Research.

(4) Budgeted under the General Operations and Maintenance Fund.

# **SPECIAL STATE APPROPRIATIONS**

## **Some Important New Requests**

### **ROCHESTER EXTENSION CENTER**

Appropriation requests of \$147,700 for the first year of the biennium and \$158,215 for the second year are being made to expand the range of the University's higher education offerings in the Rochester community. Responding to the requests from Rochester educational, business, and industrial leaders, the University General Extension Division, in a joint venture with Rochester State Junior College and Winona State College, last year presented 24 different courses with a total enrollment of 620. Under an agreement with the two colleges, the University concentrated on upper division and graduate level work. The 1967-68 courses were given chiefly in mathematics, engineering, and business administration, with some work in library science, educational administration, and agriculture. To meet the many specialized and diverse needs of the Rochester community and to study the feasibility of this extension approach for other communities it is imperative that the course offerings in these fields be expanded and that courses in many additional fields be offered.

### **GRADUATE FELLOWSHIPS**

To make it possible for the University to attract able graduate students to serve as teaching assistants on a "package support" basis — alternating periods of study with periods of teaching — we are asking for an appropriation of \$50,000 for each year of the biennium to establish a reasonable number of fellowships for such students. Available Federal fellowships are not adequate in number, are not balanced over the fields of scholarship, and do not provide for an appropriate intermixture of teaching participation.

### **FAMILY PRACTICE AND COMMUNITY HEALTH**

Primary objective of the newly established program in Family Practice and Community Health is to provide a training ground within the Medical School and its affiliated institutions for practitioners in a new medical specialty, family medicine. The future family physician will be trained as a "specialist in family practice" to provide total medical care and to supervise total health care to all age groups. Development of the program is being financed in 1968-69 by a one-year grant from the Hill Foundation. We are asking the Legislature for \$288,408 for 1969-70 and \$466,062 for 1970-71. If the request is granted, the family practice training program for both undergraduate and graduate physicians will go into operation July 1, 1969.

### **PLANNING FOR EXPANDED HEALTH SCIENCES TRAINING IN MINNESOTA**

Planning for the development and expansion of health sciences education in Minnesota elsewhere than on the University's Twin Cities Campus is the basis for a \$106,950 appropriation request for 1969-70. The Regents' position includes among other things a proposal that the program for expanding the output of health personnel requires expansion and possible modification of the use of Twin Cities hospitals for clinical and residency instruction. The study also will focus on academic training possibilities in St. Paul-Ramsey Hospital and on enlarging affiliated hospital relationships, such as that with Hennepin General Hospital. It also proposes expansion, as an initial step, of paramedical (medical technology, nursing, occupational therapy, etc.) programs at the University of Minnesota, Duluth, with an eye to possible development of similar programs elsewhere in the State. Long-range attention is to be given to the possibility of offering medical education in Duluth and to the University's cooperation with the Mayo Clinic and the Mayo Foundation in studying the feasibility of developing a medical school in Rochester.

This **Statement of Needs** of the University of Minnesota is being sent to alumni, parents, staff members, community and State leaders, and other friends of our University. In the interest of economy, duplicate addresses have not been eliminated, and it may be that you will receive more than one copy. If you do, will you please give the extra copy to someone who should know about the University and its needs?

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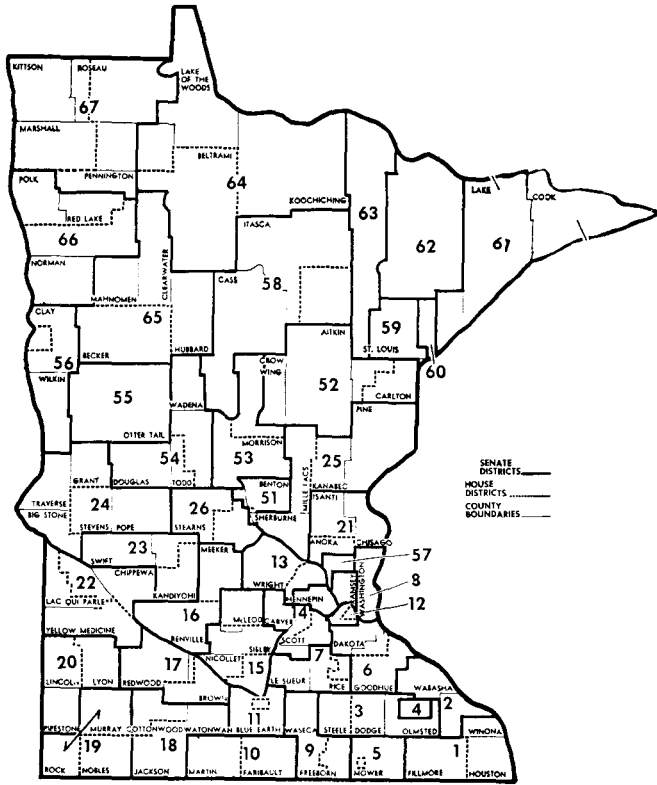
# House of Representatives

District	County	Name
1A	Fillmore	Neil Haugerud
1B	Houston, Winona	L. L. Duxbury
2A	Winona	Frank Theis
2B	Wabasha, Winona	Charles H. Miller
3A	Steele	Don Riegel
3B	Dodge, Olmsted	Bertram H. Fuller
4	Olmsted	Donald W. Fisher
		Alfred Schumann
5A	Mower	Helen E. McMillan
5B	Mower	Harvey B. Sathre
6A	Dakota, Goodhue	Walter K. Klaus
6B	Goodhue	Roy L. Voxland
7A	Rice	Warren D. Chamberlain
7B	Rice, LeSueur	George B. Krenik
8	Washington	Howard R. Albertson
		Richard W. O'Dea
9A	Freeborn	Henry J. Savelkoul
9B	Freeborn, Waseca	Rodney N. Searle
10A	Faribault	Arlen I. Erdahl
10B	Martin	Newton A. Johnson
11A	Blue Earth	C. A. Johnson
11B	Blue Earth	Roy Schulz
12A	Dakota	Raymond Pavlak
12B	Dakota	Howard A. Knutson
13A	Hennepin	John P. Wingard
13B	Wright	Arnold D. Gruys
14A	Carver, Scott	Ralph Jopp
14B	LeSueur, Scott	Henry J. Morlock
15A	McLeod	John Bernhagen
15B	McLeod, Nicollet, Sibley	August B. Mueller
15C	Nicollet	Carl M. Johnson
16A	Renville	Ernest Schafer
16B	Meeker, Wright	Adolph L. Kvam
17A	Brown, Redwood	Aubrey W. Dirlam
17B	Brown	Ivan Stone
18A	Cottonwood, Jackson	George Mann
18B	Cottonwood, Watonwan	M. K. Hegstrom
19A	Nobles	Francis G. Judge
19B	Murray, Rock	Wendell O. Erickson
20A	Lincoln, Pipestone	Verne E. Long
20B	Lyon	W. Casper Fischer
21A	Anoka	Charles R. Weaver
21B	Chisago, Isanti	Robert C. Becklin
22A	Chippewa, Lac qui Parle, Yellow Medicine	Harold Dammermann
22B	Lac qui Parle, Yellow Medicine	Harry Peterson
23A	Kandiyohi, Swift	W. D. Shores
23B	Kandiyohi	Wallace F. Gustafson
24A	Pope, Stevens	Delbert F. Anderson
24B	Big Stone, Grant, Traverse	Sam Barr
25A	Kanabec, Pine	Joe Gimpl
25B	Mille Lacs, Sherburne	Robert Dunn
26A	Stearns	B. J. Brinkman
26B	Stearns	Joseph T. Niehaus
27A	Hennepin	Thomas E. Ticen
27B	Hennepin	Joseph P. Graw
28A	Hennepin	Ernest A. Lindstrom
28B	Hennepin	James C. Swanson
29A	Hennepin	Otto Bang
29B	Hennepin	John B. Keefe
30A	Hennepin	William E. Frenzel
30B	Hennepin	Robert J. McFarlin
31A	Hennepin	Donald E. Forseth
31B	Hennepin	Rolf T. Nelson
32A	Hennepin	Roger H. Scherer
32B	Anoka, Hennepin, Ramsey	John Kozlak
33A	Hennepin	O. J. Heinitz
33B	Hennepin	Salisbury Adams
34	Hennepin	Vernon T. Hoppe
		Ray Wolcott
35	Hennepin	Gary W. Flakne
		Lyall A. Schwarzkopf

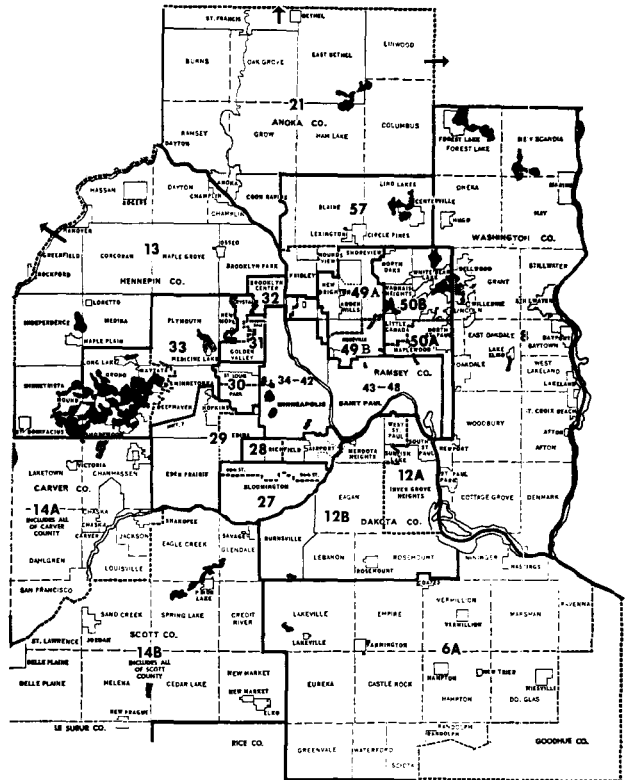
District	County	Name
36	Hennepin	Thor Anderson
		F. Gordon Wright
37	Hennepin	Harold J. Anderson
		John W. Johnson
38	Hennepin	George F. Humphrey
		Richard H. White
39	Hennepin	Edward J. Gearty
		John Salechert
40	Hennepin	Stanley J. Fudro
		Edward J. Tomczyk
41	Hennepin	John P. Skeate
		Edward R. Brandt
42	Hennepin	James L. Adams
		Martin Olav Sabo
43A	Ramsey	Robert L. Pavlak
43B	Ramsey	Vernon L. Sommerdorf
44A	Ramsey	John C. Chenoweth
44B	Ramsey	Bruce Lindahl
45A	Ramsey	Joseph Prifrel
45B	Ramsey	Richard W. Richie
46A	Ramsey	Fred C. Norton
46B	Ramsey	Roy R. Ryan
47A	Ramsey	Robert W. Johnson
47B	Ramsey	Joseph T. O'Neill
48A	Ramsey	Robert D. North
48B	Ramsey	Robert F. Christensen
49A	Ramsey	Richard Andersen
49B	Ramsey	Robert C. Bell
50A	Ramsey	John B. Winter
50B	Ramsey	Tom Newcome
51A	Stearns	Jack Kleinbaum
51B	Benton, Sherburne, Stearns	John Bares, Jr.
52A	Aitkin, Carlton, Crow Wing	Howard E. Smith
52B	Carlton	Bernard Carlson
53A	Morrison	Richard M. Nolan
53B	Crow Wing	Donald Samuelson
54A	Douglas, Todd	Jon Haaven
54B	Todd, Wadena	Ron Everson
55	Otter Tail	Roger Hanson
		Calvin R. Larson
56A	Clay	D. H. Sillers
56B	Clay, Wilkin	Arlan Stangeland
57A	Anoka, Ramsey	Carl Moen
57B	Anoka, Ramsey	Vernon Plaisance
58A	Cass, Itasca	Robert G. Renner
58B	Itasca	Art Frick, Sr.
59A	St. Louis	Dwight A. Swanstrom
59B	St. Louis	Willard M. Munger
60	St. Louis	Earl B. Gustafson
		Duane Rappana
61A	St. Louis, Cook, Lake	James Ulland
61B	St. Louis	Alfred E. France
62	St. Louis	Edwin Hoff
		Roy Combe
63	St. Louis	Barney Bischoff
		John Spanish
64A	Beltrami	Robert Falk
64B	Beltrami, Koochiching, Lake of the Woods	Irvin N. Anderson
65A	Becker	Frank H. DeGroat
65B	Clearwater, Hubbard, Mahanomen	L. J. Lee
66A	Norman, Polk	Marvin E. Christianson
66B	Polk, Red Lake	Louis A. Murray
67A	Kittson, Marshall, Roseau	Richard W. Fitzsimons
67B	Marshall, Pennington, Roseau	Andrew Skaar

# Senate

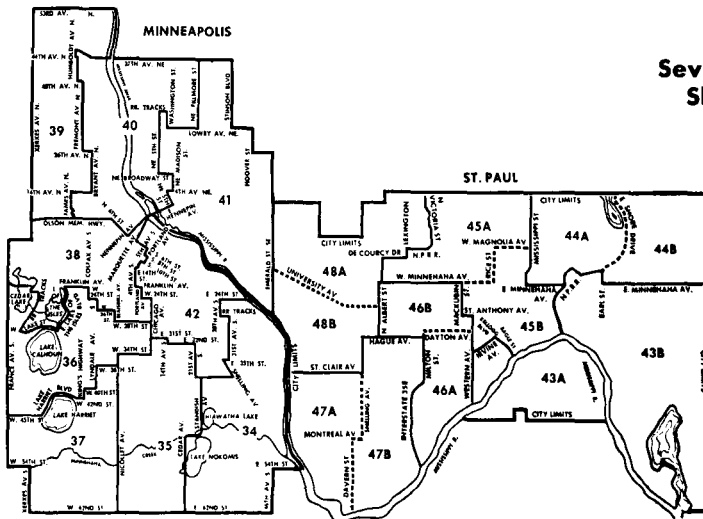
District	County	Name
3	Steele, Dodge, Olmsted	Cliff Sommer
4	Olmsted	Harold G. Krieger
5	Mower	C. R. Hansen
6	Goodhue, Dakota	George R. Conzenius
7	Rice, LeSueur	A. O. Sundet
8	Washington	Robert J. Brown
9	Waseca, Freeborn	Rudolph Hanson
10	Faribault, Martin	Ernest J. Anderson
11	Blue Earth	Kelly Gage
12	Dakota	Rollin B. Glewwe
13	Wright, Hennepin	Victor N. Jude
14	Carver, Scott, LeSueur	John A. Metcalf
15	Nicollet, McLeod, Sibley	Harold R. Popp
16	Renville, Meeker, Wright	Stanley W. Holmquist
17	Brown, Redwood	Carl A. Jensen
18	Cottonwood, Jackson, Watonwan	Walter J. Franz
19	Murray, Nobles, Rock	John L. Olson
20	Lincoln, Lyon, Pipestone	J. A. Josefson
21	Chisago, Isanti, Anoka	Howard Nelson
22	Chippewa, Yellow Medicine, Lac qui Parle	Vernon K. Jensen
23	Swift, Kandiyohi	Robert C. Johnson
24	Big Stone, Grant, Pope, Traverse, Stevens	C. J. Benson
25	Pine, Kanabec, Mille Lacs, Sherburne	George E. Grant
26	Stearns	Henry M. Harren
27	Bloomington, Hennepin	Jerome V. Blatz
28	Hennepin	W. C. Kirchner
29	Hennepin	Alf Bergerud
30	Hennepin	Kenneth Wolfe
31	Hennepin	Eugene F. Welter
32	Hennepin, Anoka, Ramsey	Dean A. Nyquist
33	Hennepin	Henry T. McKnight
34	Hennepin	Mel Hansen
35	Hennepin	Wayne G. Popham
36	Hennepin	Glenn D. McCarty
37	Hennepin	Harmon T. Ogdahl
38	Hennepin	Donald O. Wright
39	Hennepin	Leo D. Mosier
40	Hennepin	Harold Kalina
41	Hennepin	Roy W. Holsten
42	Hennepin	Jack Davies
43	Ramsey	Karl F. Grittner
44	Ramsey	Wendell R. Anderson
45	Ramsey	Edward G. Novak
46	Ramsey	Nicholas D. Coleman
47	Ramsey	Clifton Parks
48	Ramsey	John Tracy Anderson
49	Ramsey	Robert O. Ashbach
50	Ramsey	Jerome M. Hughes
51	Benton, Sherburne, Stearns	Keith Hughes
52	Aitkin, Carlton, Crow Wing	Norman W. Hanson
53	Morrison, Crow Wing	Gordon Rosenmeier
54	Douglas, Todd, Wadena	M. W. Bursch
55	Otter Tail	Cliff Ukkelberg
56	Clay, Wilkin	W. B. Dosland
57	Anoka, Ramsey	Tom Greig
58	Cass, Itasca	Norbert Arnold
59	St. Louis	Francis LaBrosse
60	St. Louis	Arne C. Wanvick
61	Cook, Lake, St. Louis	Raymond J. Higgins
62	St. Louis	A. J. Perpich
63	St. Louis	Rudy Perpich
64	Lake of the Woods, Koochiching, Beltrami	Gene Mammenga
65	Becker, Hubbard, Mahanomen, Clearwater	Robert V. Leiseth
66	Norman, Polk, Red Lake	Norman Larson
67	Pennington, Kittson, Marshall, Roseau	Donald Sinclair



**County Outline Map of Minnesota Showing Legislative Districts**



**Seven-County Metropolitan Area Showing Legislative Districts**



**Cities of Minneapolis and St. Paul Showing Legislative Districts**

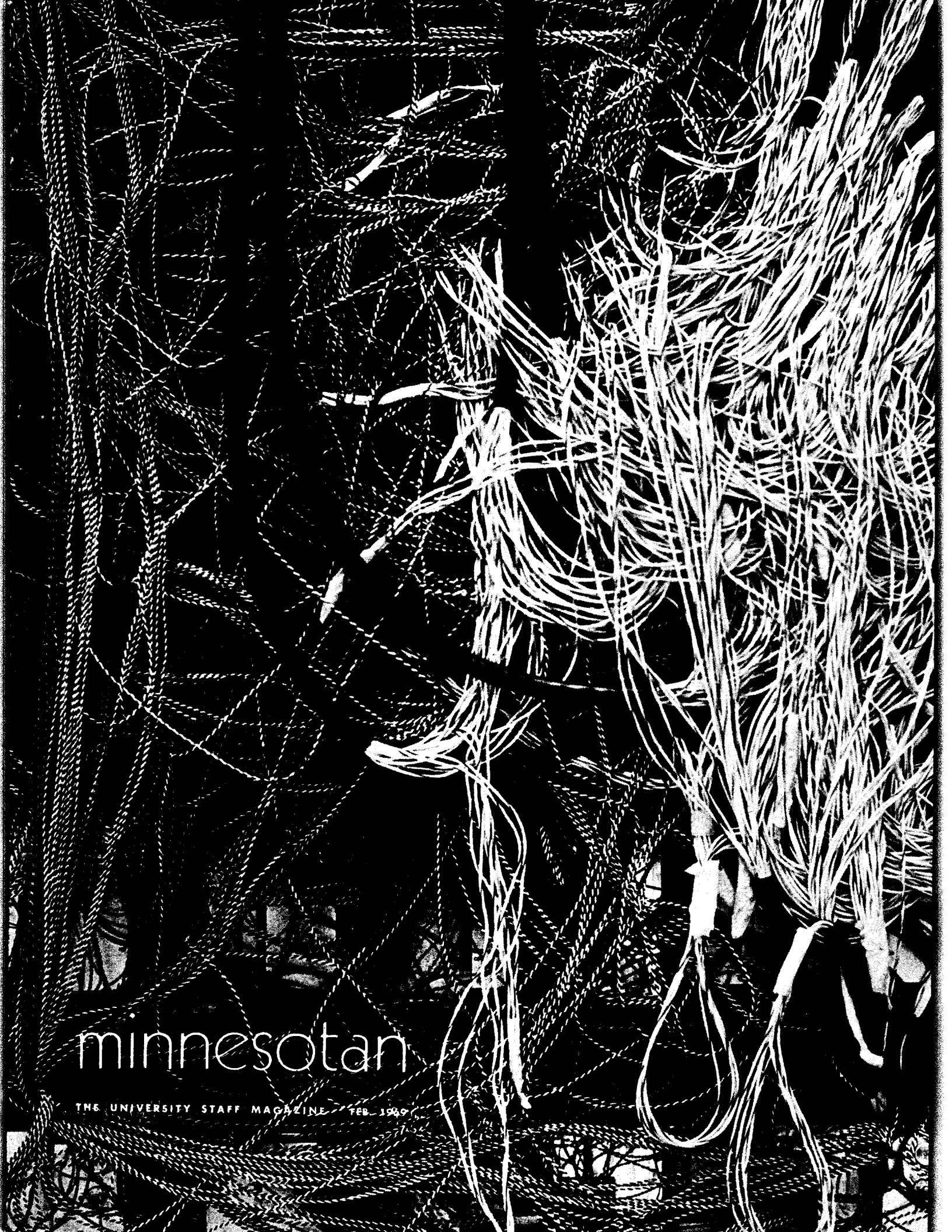
Maps courtesy of Minnesota Railroads Association

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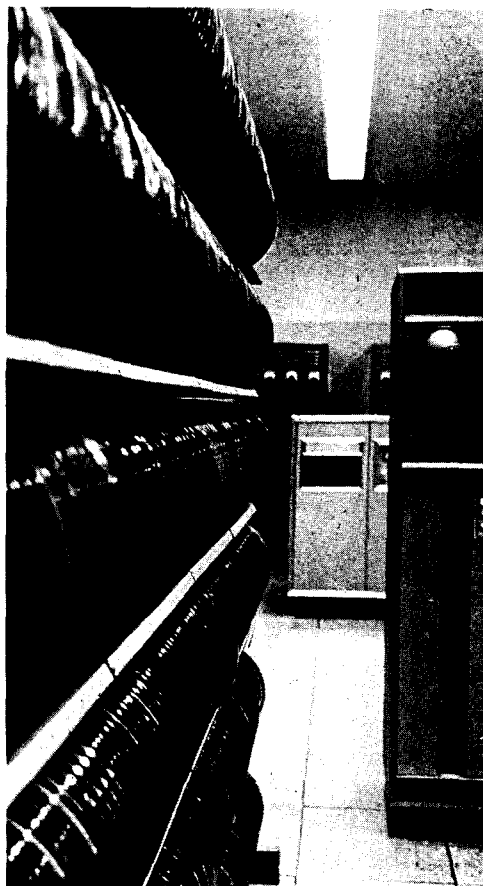
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THE UNIVERSITY STAFF MAGAZINE FEB. 1969



*DIRECTOR Frank Verbrugge (left) and Technical Director Marvin L. Stein of University Computer Services.*

# University Computers Have Many Uses



Acknowledged as one of the scientific researcher's most valuable tools, the computer has shown itself to be equally useful in fields outside of engineering, mathematics, and science. Educators, social scientists, psychologists, and business executives are among the many computer users.

Recognizing the need for and the potential uses of a computer, the University purchased its first computer in 1958, a Univac 1103. It was adequate until 1962 when a Control Data 1604 was purchased. By 1965 the facility was again overworked with the machine operating twenty-four hours a day, seven days per week. In the spring of 1967, the University bought its largest computer to date, the Control Data 6600, located on Highway 280 in Lauderdale. It is the central computer of the University Computer Center where most of the University computing is handled. Professor of Mathematics Marvin L. Stein, Technical Director of University Computer Services, is the Director of the Computer Center. The 6600 has a capacity fifteen to twenty times greater than the 1604 it replaced.

"The 6600 is fast, and works on more than one program at a time," said Dr. Frank Verbrugge, Director of University Computer Services. While one problem is being solved in the central processor, ten peripheral processors are reading programs. Thus, no time is spent within the central core putting the problems into workable computer form. The main processor goes from problem to problem, solving them in a matter of seconds or minutes. A recent acquisition for the computer is an "extended storage core" which increases the capacity for storing data and programs and for computations.

Prior to the 6600, the 1604 was used for both research and instruction. The 6600 has now freed the 1604, located in Experimental Engineering, for instructional computation of student problems. Last year, approximately 1,000 students took computer programming courses which require running programs on a computer. In addition, many courses in engineering and the physical sciences require that students use the computer to solve problems.

During the 1967-1968 school year, a remote terminal — a Control Data 8090 — was set up in Experimental Engineering; it will soon be moved to the Space Science Center. This remote terminal has about the same input and

*Maureen Smith, Editor*

*Joan Friedman, Associate Editor*

#### ADVISORY GROUP

*William L. Nunn, Director / William T. Harris, Jr., Assistant Director / Advisory Committee: Members of the University Public Information Council. THE MINNESOTAN is published monthly October through May with the exception of January by the Department of University Relations, 220 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Subscription-free copies mailed to full-time staff members. Non-staff member subscription rate: \$2.00 per year, \$3.00 per copy. Copies of each issue on sale at Coffman Memorial Union Bookstore. Second class postage paid at Minneapolis, Minnesota.*

*ON THE COVER is wiring in the Control Data 6600 at the University of Minnesota Computer Center in Lauderdale.*

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output facilities as those at the 6600 site. This means that by using a broad-band telephone line, one can "plug into" the 6600. Without leaving the campus, a person can feed programs into the larger 6600 and have the answer returned within seconds on the 8090. Other such satellite stations are planned for the Twin Cities Campus.

Other types of satellite computers are found on campus. Dr. Eugene Johnson is Director of the Bio-Medical Data Processing Center in the College of Medical Sciences. The computer, a Control Data 3300, handles a variety of tasks related to medical research. The 3300 can function independently and also as a link with the 6600. The 6600 processes large problems that it can handle more efficiently than the 3300.

The third computer linked to the 6600 by a broad-band telephone line is the Control Data 3200 located in the West Bank Computer Center. Mr. William Craig is the University Computer Center West Bank representative. Like the 3300, the 3200 is linked to the 6600 and has independent capabilities. Peripheral equipment provides local users with facilities for the special research and teaching needs of those on the West Bank, primarily research and classroom work for the School of Business Administration and for the social sciences.

As an example of specialized use, the computer is used in a Business Administration graduate program to instruct graduate students in management information systems. The course is "aimed at future company executives to demonstrate the use of computers in the decision-making problems of management," said Dr. Verbrugge. "Computers can do other things besides compute. They can answer questions, help make decisions, maintain a large storage of information, and process such information."

Computers have also entered the fields of psychology and learning. Professor Russell W. Burris, Director of the Center for Research in Human Learning, is using an IBM 1500 to conduct research on the process of human learning. Professor Burris is trying to determine how a student learns when using a computer and programmed learning aids. Such information could improve the program which permits the student to work without an instructor and at his own pace.

Professor Hugo John is the Director of the Computer Center on the Twin Cities Campus/St. Paul. A rented IBM system is used to keep and process production records for the Dairy Herd Improvement Association and to conduct agriculture experiments and research. Plans include having a satellite station in St. Paul.

Duluth also has a Computer Center under the direction of Professor John L. Gergen. The Center uses its com-

puter to conduct data processing in business administration, enrollment, and education, and for instruction and research.

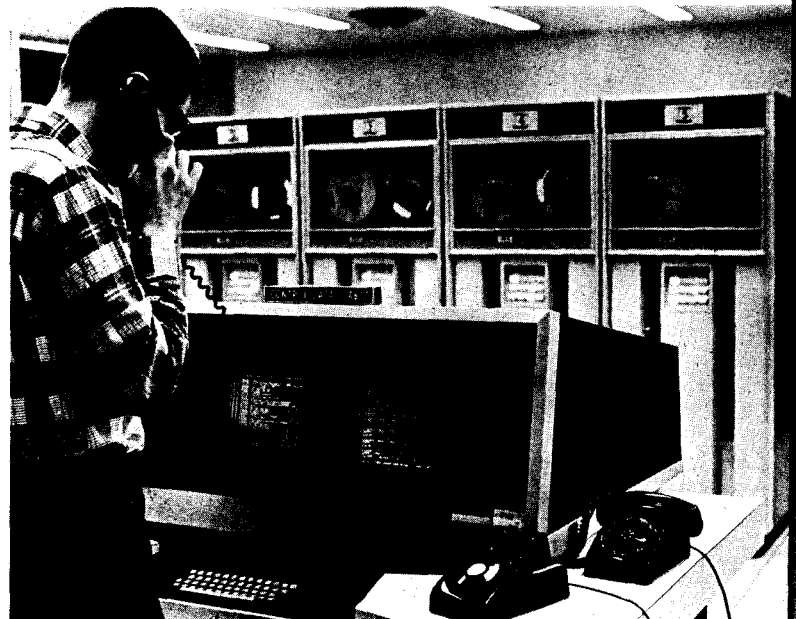
The Hybrid Computer Laboratory in the Space Science Center is primarily a research tool for faculty members and graduate students. Two analog computers and a Control Data 1700 digital computer operate together to simulate control systems and processes in a variety of fields. Dr. Stephen J. Kahne has recently been named Director of the Hybrid Computer Laboratory.

The Data Processing Center, located in Morrill Hall, has an IBM 360/50 system, and is primarily used for business administration purposes. It also handles the processing of student admissions and records, and other programs of a similar nature. Mr. Ralph Willard is in charge of the Center.

The demand for computer services continually grows. To meet this demand, some departments of the University use time-sharing systems. "These are interactive systems which allow several customers to use a remotely based computer 'simultaneously.' They are programmed to move from one customer to another," said Dr. Verbrugge.

University departments were customers last year, along with other organizations and companies across the nation,

*(continued on page 10)*



# A Natural History Tour

A tour of the James Ford Bell Museum of Natural History "actually amounts to a trip around Minnesota," according to Museum Director Walter J. Breckenridge.

Wildlife native to Minnesota is exhibited in a dioramic setting, with natural surroundings and painted backgrounds representing typical Minnesota scenes. Scenes familiar to many Minnesotans include the Itasca State Park setting for the beaver display and the Minnehaha Falls background for the otters.

Many regions of the state are shown in the dioramas, and visitors are sometimes able to identify precise locations near their own homes.

Under Director Breckenridge and Public Education Coordinator Richard E. Barthelemy, the James Ford Bell Museum has been reaching out to new groups in the state. When an evaluation of Museum programs showed

that few of the youngest and oldest Minnesotans were visiting the Museum, plans were made to bring both of these groups to the Museum—and in some cases to bring the Museum to them.

A grant of \$11,000 from the Governor's Council on Aging has enabled the Museum to plan a program of tours and films for the older people of the metropolitan area. The request to the Council was for \$20,000, and if the full amount had been granted the program could have been extended to other areas of Minnesota.

Groups of older visitors to the Museum enter through Nolte Garage and come up on elevators, so that even those in wheel chairs can enjoy the exhibits. From University students who serve as guides, the visitors hear brief talks about the exhibits and about relevant current issues such as pollution of the environment. The talks are planned to combine a strongly reminiscent tone with attention to contemporary problems.

Some of the money from the Governor's Council has gone into a photographic program—with films taken by Photographer Roger Woo—so that the older visitors can take the films back to their homes and share their Museum experience with others who were unable to make the trip. This multiplies the pleasure for those who do visit the Museum and brings the Museum to those who could not otherwise see the exhibits.

To get the best possible pictures, Mr. Woo has been doing the photography with the glass of the exhibit cases removed to avoid reflection. His pictures are taken from various eye levels so that each visitor who later sees the films can relive a part of his own experience. And for each viewer the films will have some surprises as well: an adult who stood during his Museum visit may discover for the first time the expression in the eyes of a fawn that gazes out at child's eye level.

It is the children who often take the greatest delight in the Museum—and learn facts of natural history while they are at it. Guides speak to them in terms they understand. When the fifth-graders shown on pages 6 and 7 toured the Museum, for example, their guide told them "There are more kids in your school than there are wolves in Minnesota."

For the most children the highlight of a Museum visit is the Touch and See Room with its display of animal skulls and skins and bones. The room was originally created for Head Start in St. Paul and was designed especially for children from kindergarten through the second grade. But students in the higher elementary grades also enjoy the Touch and See experience—and so do those adults who are lucky enough to get inside the room. (The room is unlocked only when groups of children come through on tour—and on Sundays from 2:00 to 5:00 p.m.)

In Touch and See, children are invited to rub an animal's fur, compare its bones to their own, lift its antlers to see how heavy they are, even get inside its skin. All of this gives a child "an inner sympathy with the animals," Mr. Barthelemy said.

One corner of the room which always becomes a center of attention is the shadow area. Very simple in design—just a light shining on a white background—this area gives the child a chance to choose from a variety of



# of Minnesota

antlers, place one set on his head, and look at his shadow. In a mirror a child holding antlers over his head is still a child holding antlers, but shadow pictures allow him to be more fanciful, to become for a few moments a deer, a moose, or any animal that his imagination suggests.

Animal pelts give children another chance to pretend. Sometimes there is a Cub Scout in uniform among the young visitors, and the guide may suggest that he try on the skin of a wolf cub. But even without the suggestion, the children always discover the skins. Sometimes when they are wearing the skins they will run to look at their shadows; other times they will offer wild-animal rides to their classmates.

Instead of answering the children's many questions, guides encourage the children to find their own answers or to guess until they hit upon the answer. "What animal do these antlers come from?" "Let's see — can you find an animal head in this room with antlers just like them?" "What is THIS?" "It looks like the skull of a large animal. Can you guess which one?"

The skull which often becomes the center of a guessing game turns out to be that of an elephant, and a second guessing game might be to decide whether an elephant or a man has a larger brain. There is one way to find out — feel inside the skull and see how large the brain cavity is. Children are often surprised to find which has the larger brain.

Drawers of "Feelies" provide more excitement for the visitors. Children are asked to reach inside a drawer and, without looking, identify the object that they feel — a bone, a wing, perhaps a stuffed mouse. To a very young child a mouse is just something soft; to an older child or to an adult it may be something unpleasant. One aim of the Museum is to reach children before unrealistic negative attitudes are formed.

Sometimes the guide directs the group's attention to the back of a box and tells them that in this box they will see the most dangerous animal in the world, the animal that destroys whole forests and even kills its own kind. When the children hurry over to see this destructive animal, what they see is a mirror. For those who had not recognized the most dangerous animal from the guide's description, the emotional impact is tremendous.

Turkey bones that were collected after Thanksgiving are used in the Touch and See Room and also will be distributed to area schools, along with directions for laying out the bones. Often the set of bones which a school receives or collects will be incomplete, but as the students try to reconstruct the skeleton, the parts that are missing will teach them as much as the parts that are there.

Associate Professor Richard Abell, who teaches related arts in the School of Home Economics, designed the Touch and See Room with help from his wife. Colorful banners with fanciful pictures of birds woven by Professor Abell's students are on loan to the Museum.

Guides for a Museum tour are available to any group of 15 or larger. Mrs. Lucy Cutler is in charge of the arrangements for tours and can be reached at 373-2423.

Sunday programs at the Museum are planned especially for family groups. The Museum is open each Sunday afternoon from 2:00 to 5:00 p.m., and free films are shown in



*MUSEUM DIRECTOR Walter J. Breckenridge (left) and Public Education Coordinator Richard E. Barthelemy look at the timber wolf display constructed by Dr. Breckenridge and donated by James Ford Bell.*

the Museum Auditorium at 2:30 and 3:30. February films will be "British Birds" on February 2, "Endangered Wildlife" on February 9, "What Can An Animal Learn?" on February 16, and "Our Evolving Animals" on February 23.

"Our Man-Handled Environment" is the theme of a series of free public lectures on alternate Wednesday evenings at 7:30. "Agriculture & The Nutrient Enrichment of Water" will be the topic on February 12, and "Insect Outbreaks" on February 26. The Museum is open each Wednesday evening as a special service for adult groups and for father-son organizations such as the YMCA Indian Guides.

University students graduating from the College of Education in biology, physics, chemistry, and elementary education are given a tour of the Museum by Mr. Barthelemy, who gives suggestions to the future teachers about how to get maximum educational value from a museum. Included is a behind-the-scenes visit to the area where exhibits are prepared.

Preparator John A. Jarosz and Artist Alfred R. Martin mount the animals and build the exhibits. The authentic-looking natural surroundings in the foreground may be a combination of plaster of paris rocks, plastic plants, and real grass and brush. The well-known outdoor artist Francis Lee Jacques was commissioned by the Museum to paint many of the backgrounds.

More than just an exhibit hall, the James Ford Bell Museum of Natural History is the center for a sizable research enterprise. Radio telemetry at the Cedar Creek Natural History Area and Arctic research were described in the February 1968 *Minnesotan*.

Research and exhibits are closely coordinated. Each research department has a curator who controls the collection in his field and also teaches in an academic department — ecology, zoology, or whatever. (The Museum itself is not a teaching arm of the University.)

Associate Professor Albert W. Erickson is Curator of Mammals, Professor Dwain W. Warner is Curator of Birds,

*(continued on page 10)*



# A Morning

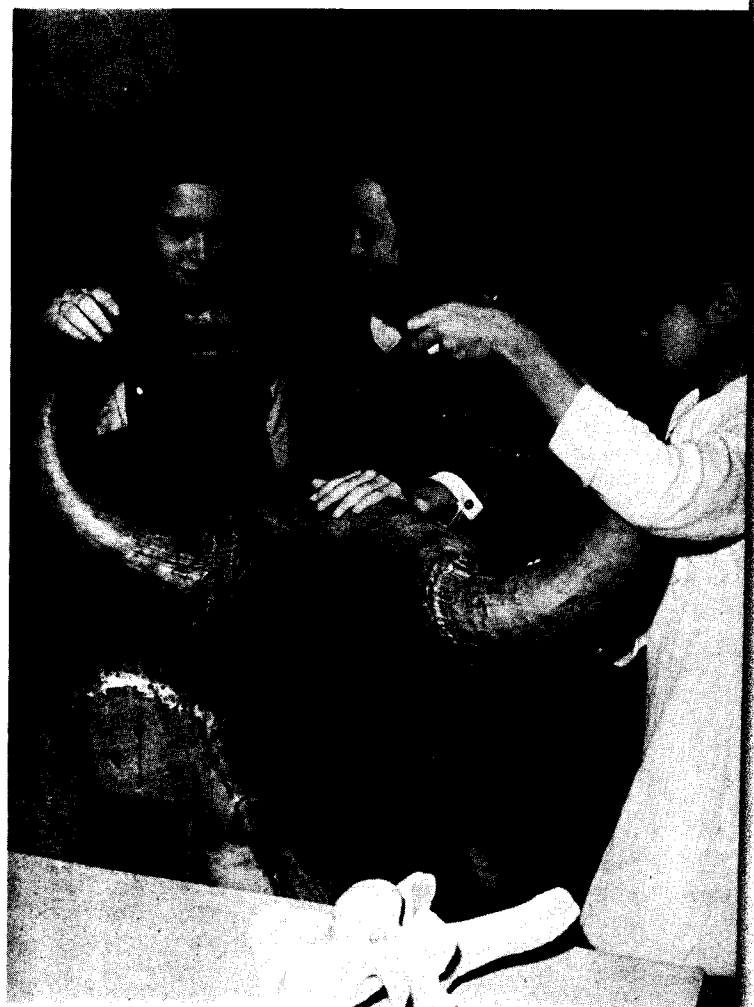
*FIFTH GRADERS  
ing the James Fo  
the exhibits and t*





# at the Museum

*From Agassiz Elementary School visit-  
Bell Museum of Natural History enjoy  
Touch and See Room.*



# Law Enforcement Science

## Department Formed

No society has demanded more of its law enforcement officers than the United States in 1969. At a time when the crime rate is high and when confrontations between generations and races are increasingly explosive, the policeman is expected to make the right decisions quickly and to exercise authority, force, judgment, and restraint in proper balance.

In an effort to provide law enforcement officers with an academic background that will strengthen their ability to do the difficult job demanded of them, the University of Minnesota has established a Department of Law Enforcement Science.

This new interdisciplinary program evolved after several years of inquiry and discussion involving representatives of Minnesota law enforcement agencies, nationally known authorities on matters of police professionalization, and University committees chaired by Associate Dean Donald Z. Woods of the General Extension Division and by Professor Harold W. Chase of Political Science.

All groups agreed that the proper role of the University was to provide an educational program which draws upon the best resources of the University, and that the law enforcement agencies themselves should continue to provide technical training in police procedures.

Administratively located in the office of Assistant Vice President Fred E. Lukermann, the Department of Law Enforcement Science is unique in the University in that it is responsible for developing and supervising law enforcement science courses irrespective of college or divisional lines.

Professor David A. Ward, who teaches criminology in the Sociology Department, is Chairman of the new department.

Questions of policy, hiring, and curriculum are determined by Professor Ward and the Law Enforcement Science Department's Faculty Advisory Committee. Members of this Committee represent several disciplines and several colleges. "I'm very pleased to say that all of the people we asked agreed to serve," Professor Ward said.

The Committee includes Assistant Dean Frank T. Benson of the General College, Associate Professor of Sociology John P. Clark, Professor of Criminal Law Administration Richard J. Clendenen, Assistant Professor of Political Science Eugene Eidenberg, Regents' Professor of Anthropology E. Adamson Hoebel, Professor of Political Science Samuel Krislov, Associate Professor of Law Joseph M. Livermore, Regents' Professor of Psychology and Adjunct Professor of Law Paul E. Meehl, Professor of Psychology Robert D. Wirt, and Assistant Vice President Lukermann.

Student members are Mr. David Gorski, Assistant Training Officer of the Minneapolis Police Department and a senior majoring in Political Science, and Mr. David C. Couper, a detective in the Burglary Division of the Minneapolis Police Department. During the 1968-1969 academic year Mr. Couper is on leave from the Police Department to work on his master's degree in Sociology and act as administrative assistant for Professor Ward.

The first appointment made by Professor Ward and the Faculty Committee was that of Professor Raymond T. Galvin of the School of Police Administration, Michigan

State University. Professor Galvin, whose appointment will begin in Fall 1969, is currently a visiting professor at the School of Criminal Justice, State University of New York, Albany. He is a nationally recognized authority on matters involving police-community relations.

Another important committee for the Department is the Liaison Committee with Law Enforcement Agencies. Members are Chief Clarence M. Coster of the Bloomington Police Department; Sergeant Jerry Dolan of the St. Paul Police Department; Chief Donald Dwyer of the Minneapolis Police Department; President Jack Jensen of Lambda Alpha Epsilon, the professional law enforcement fraternity; Sheriff Donald Omodt of Hennepin County; Assistant Attorney General in Charge of Criminal Matters Arne Schoeller; and Captain Eugene Wilson of the Minneapolis Police Department.

Professor Ward expressed his pleasure that these men, who hold important positions in law enforcement, are willing to serve on the Liaison Committee. Their accessibility ensures that the Law Enforcement Science program will continue to reflect the joint efforts of University faculty members and professional law enforcement officers.

The curriculum of the Law Enforcement Science program is designed primarily for the younger police officer who comes to the University on a part-time basis and works toward a bachelor's degree in the College of Liberal Arts or a two-year Associate in Arts degree from the General College.

Mid-career programs are planned for older officers who are less likely to come as regular students. Graduate courses and special institutes will be offered to law enforcement officers in administrative positions.

Both Professor Ward and Mr. Couper commented that University undergraduates have shown little interest in law enforcement agencies other than the F.B.I. Professor Ward said that until the prestige, the pay, and the professional career opportunities of the police officer are improved, few University students will consider careers in local law enforcement.

When the program is in full operation in Fall 1969, students in the four-year program will select a major relevant to law enforcement such as Sociology, Psychology, Political Science, Public Administration, or Anthropology.

A list of the courses already offered by these departments that would be valuable to police officers would include Abnormal Psychology, Child and Adolescent Psychology, The Negro in American History, History of Civil Liberties and Civil Rights in the U.S., Anthropology of Law, Human Sexual Behavior, Community Power Structure, Metropolitan Government and Politics, Criminology, Penology, Delinquent Behavior, Minority Group Relations, and Urban Problems.

In addition to meeting the requirements of their major field, Law Enforcement Science students will be required to take "core" courses in the following areas: Criminal Law and Procedure, Police Administration, The Role of the Police in Contemporary Society, and The Administration of Criminal Justice.

There will be no special classes for law enforcement officers alone. The officers will take regular University





*AT A MEETING of Lambda Alpha Epsilon, the professional law enforcement fraternity, graduate student David Couper (left), a detective on leave from the Minneapolis Police Department, talks with Minneapolis Chief of Police Donald Dwyer and Associate Professor of Sociology John P. Clark.*

courses along with other undergraduates. Police officers and University students today often view each other with mutual suspicion and even hostility, but both groups find exceptions to stereotypes when they get to know each other in the classroom or around the campus.

Although there has been no formal program in law enforcement science until this year, Professor Ward said that there have been many "bright and concerned young police officers" who have been coming to the University without special encouragement. Mr. Couper estimated that there are about 50 police officers enrolled this year and that more than 100 others have written, called, or visited the University to express their interest in participating in the program.

The Law Enforcement Science Department is now trying to determine how heavy the financial burdens have been on police officers who are also University students. "We know it's hard for them; we don't know how hard," Professor Ward said.

In addition to the teaching program, the Law Enforcement Science Department will sponsor, coordinate, and provide consultants for a variety of research activities in law enforcement, criminal justice, and criminology. Professor Ward said he hoped that departmental funding will permit the bringing of leading scholars and law enforcement professionals to the University on a visiting professor basis to offer special courses in such areas as "Organized Crime," "Drug Addiction," and "Police-Community Relations."

If the program is successful, Professor Ward said, the police officer will come out of the University not with all the answers but with a lot of questions — and a realization that the problems faced by police officers are not easily resolved.

The officer should also gain from the University a research orientation. Although a policeman does not need a college education to adopt a problem-solving approach to crime detection, the training and experience of gathering empirical evidence in his academic work is valuable background.

Professor Ward gave an example of the way that an

experimental approach to the solving of crimes was utilized by two police officers who are students: "If a call comes in to a police station that a drug store has been robbed, the automatic response might be to send several police cars to the store. The officers thought that a more imaginative approach would be to send officers to points which an experiment has shown might be reached by a suspect trying to get away from the store.

"The officers discussed the problem in terms of measuring how far a suspect could walk, run, or drive in a certain amount of time and recognized that they would have to consider such variables as the age of the suspect and the weight of the stolen goods he is carrying away."

What will be the professional benefits for a law enforcement officer with a college degree? The answer depends on the citizens who support local law enforcement agencies with their taxes and their informed interest.

A police officer who is a college graduate should expect to be rewarded with higher pay and challenging assignments. His knowledge should be used in crime prevention, scientific crime detection, and community relations — not checking parking meters.

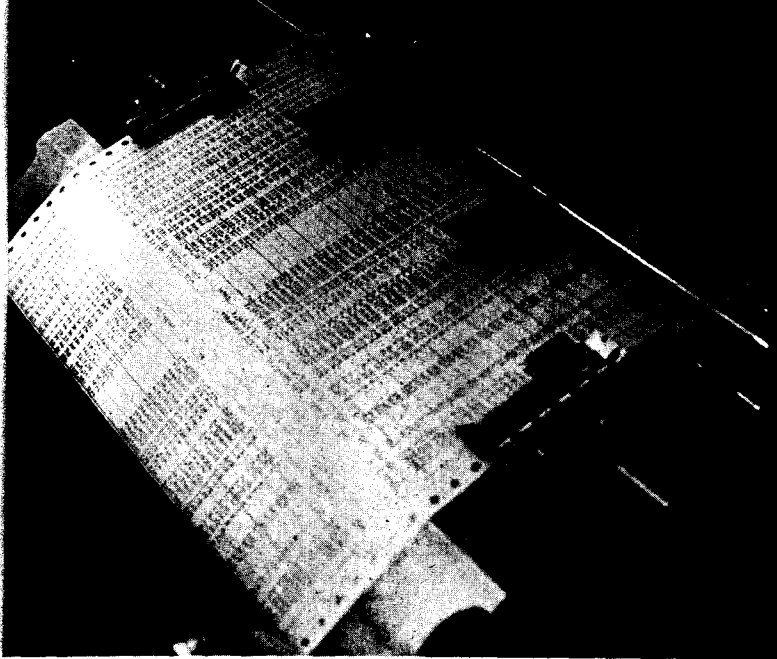
An officer with a bachelor's degree is a marketable commodity, and if he does not find professional opportunities and a good salary in local law enforcement he may turn to a federal agency or to private industry (plant and industrial security).

"It will be up to the taxpayers who support both the University and the police departments," Professor Ward said. "They might be in the position of educating the best young officers right out of local law enforcement. The officers themselves cannot lose by getting their degrees — but they have commitments to local law enforcement and most of them hope to stay in it."

The establishment of the University's Law Enforcement Science Department implements one of the recommendations of the Governor's Commission on Law Enforcement, Administration of Justice, and Corrections. The Department is currently operating with funds provided by a Ford Foundation grant, and a request now before the Legislature seeks funding on a permanent basis.



*MINNEAPOLIS PATROLMEN who are University students include Jack Jensen (left), President of Lambda Alpha Epsilon, David Gorski, and Donald Pelkey.*



## Computers

(continued from page 3)

of several time-sharing computer services. There were twelve terminals, or connections, on campus last year, some of them in classrooms. Time-sharing in a classroom permits a faculty member or a student to dial the computer, submit his problem, and have his solution returned before the class is over.

The educational experience for the student using the computer in a time-sharing mode is different from the computational experience of writing a program which is then fed into the computer. In this instance, the student works directly at the computer terminal and can modify his program as needed.

There is a growing demand for computer courses and computer-related laboratory experience at the undergraduate level both in the physical and social sciences. The Institute of Technology has approved an experimental freshman course, Introduction to Computers, begun this fall, to provide formal instruction at the freshman level in computing science. It is a three quarter course and includes programming experience with computers during the second and third quarters of the course.

In addition to improved research and education methodology, there is a great potential for computers to provide efficient service to students and staff. For example, computers can be used for information processing in connection with libraries, including catalog maintenance, circulation, and accounting. "Such mechanical aspects lend themselves to automation," said Dr. Verbrugge. The Bio-Medical Library in Diehl Hall presently uses a computer to maintain complete records of its journals. These records are updated monthly and a record of new acquisitions is printed each day. In the future, computers can assist in providing more efficient communication between libraries — on a university campus, within a state, or in a region.

## Recent Staff Publications

Mr. Donald N. Ferguson, Professor Emeritus of Music, *The Why of Music: Dialogues in an Unexplored Region of Appreciation*, University of Minnesota Press.

Dr. John H. Flavell, Professor of Education, coauthor, *The Development of Role-Taking and Communication Skills in Children*, John Wiley and Sons.

Dr. Paul V. Grambsch, Professor and Dean of Business Administration, coauthor, *University Goals and Academic Power*, American Council on Education.

Dr. Samuel Krislov, Professor of Political Science, co-editor, *American Government: The Clash of Ideas*, Prentice Hall.

Dr. Charles Mayo, Regent and Professor Emeritus, *Mayo: The Story of My Family and Career*, Doubleday.

Dr. J. Arthur Myers, Professor Emeritus of Public Health, *Masters of Medicine — An Historical Sketch of the College of Medical Sciences, University of Minnesota, 1888-1966*, Warren H. Green, Incorporated.

Dr. Arshi Pipa, Associate Professor and Director of Graduate Studies in Italian, *Montale and Dante* (Minnesota Monographs in the Humanities, Volume 4), University of Minnesota Press.

Dr. Travis Thompson, Associate Professor of Pharmacology, coauthor, *Behavioral Pharmacology*, Prentice Hall.

Dr. Daniel N. Wiener, Assistant Professor of Psychology, *A Practical Guide to Psychotherapy*, Harper and Row.

## Bell Museum

(continued from page 5)

and Assistant Professor Robert C. Bright is Curator of Paleontology.

Curator of Fishes is Associate Professor Charles W. Huver. Curator Emeritus Samuel Eddy retains an active interest in the collection, which is perhaps the best fish collection in the Upper Midwest.

Although the Museum maintains a collection of reptiles and amphibians, there is no Curator of Herpetology.

Professor Bright's paleontology laboratory is associated with the Limnological Research Center, which studies the physical, chemical, and biological conditions of fresh waters. Current research is centered on fossils and diatoms. Professor Bright is consulted on the identification of skeletal material uncovered at local excavation sites.

The University's new Department of Ecology in the College of Biological Sciences was once under Museum direction and still maintains a close association. Professor Alan J. Brook is Head of the Department. Other members of the Ecology faculty whose offices are in the Museum are Associate Professor D. Frank McKinney, Assistant Professor Donald B. Siniff, and Associate Professor John R. Tester. Engineer Larry B. Kuechle of the Museum's Bioelectronics Laboratory is responsible for the instruments used in such research as the tracking of animals by radio telemetry.

Dr. Breckenridge, who has been with the Museum since he graduated from the University of Iowa in 1926, will retire at the end of this academic year. A committee is now at work on the selection of his successor.

The Museum is named for James Ford Bell, an outdoor enthusiast whose interest in the Museum began in 1915 when it was in Pillsbury Hall. Financial contributions of the Bell family made possible the construction of the Museum building in 1939 and 1940, and the Bells also donated many specimens and exhibits and began the fund drive for a new wing with a substantial gift. Mr. Bell was a University Regent from 1939 until his death in 1961.

Funds are again being requested from the Legislature to furnish the new wing, which was built in 1964. The Touch and See Room, for example, is in a temporary location, and other areas on two floors of the new wing are unavailable for public use until the interior construction is completed.

# University of Minnesota Calendar

## Feb. 1-15, 1969

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Friday, February 7 — *Antal Dorati, Guest Conductor* (Tickets \$3.00-\$4.75)

#### Sunday Concert Series

Sunday, February 9 — *"The Overly-Protected Daughter,"* a dance-comedy performed by the Contemporary Dance Theatre (Tickets \$2.25-\$4.75)

### University Artists Course

Northrop Auditorium; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

#### Celebrity Series

Saturday, February 8, 8:30 p.m. — *Jose Greco and Company, Dancers* (Tickets \$2.00-\$5.00)

#### Special Concert

Saturday, February 15, 8:00 p.m. — *"Harmony Hoedown," Parade of Quartets; Variety Club Heart Hospital Benefit* (Tickets \$2.00-\$5.00)

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

Tuesday, February 4 through February — *Paintings by Sandra Kraskin, Master of Fine Arts Candidate*

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.

Through Monday, February 10 — *Mixed Media by fraternities and sororities; Showcase Hallway and Long Hallway Gallery*

Through Friday, February 14 — *Lithographs and Sculpture by Karen Mattison; Main Gallery Room*

#### St. Paul Student Center Galleries

St. Paul Student Center; Sunday through Saturday, 7:30 a.m.-11:00 p.m.

Monday, February 3 through Friday, February 28 — *Watercolors by Jake Lee; First Floor Lounge*

Tuesday, February 4 through Wednesday, February 26 — *Printmaker's Image; Second Floor Gallery*

Through, Monday, February 10 — *Wood Carvings by Peter Wedin*

Monday, February 10 through February — *Oils by Raheel; Rouser Room Gallery*

### University Theatre

#### Scott Hall Auditorium Series

Scott Hall Auditorium; Thursday and Sunday, 3:30 p.m.; Thursday and Friday, 8:00 p.m.; Saturday, 7:00 and 10:00 p.m.; general admission \$2.00, students \$1.25

Saturday, February 1 and Thursday, February 6 through Sunday, February 9 — *"Henry IV, Part 1,"* by William Shakespeare

#### Undergraduate Series

Shevlin Hall Arena Theatre; Tuesday through Saturday, 8:00 p.m.; Friday and Sunday, 3:30 p.m.; general admission \$2.00, students \$1.25

Tuesday, February 11 through Sunday, February 16 — *"Tom Thumb,"* by Henry Fielding

### St. Paul Student Center Programs

#### Films

Monday, February 3, 12:00 noon — *"Silent World,"* Jacques Cousteau; North Star Ballroom (No admission)

Friday, February 7, 7:30 p.m. — *"A Man and a Woman";* North Star Ballroom (Admission \$1.00)

Monday, February 10, 12:00 noon — *"Road Runner Cartoons";* North Star Ballroom (No admission)

Wednesday, February 12, 7:30 p.m. — *"With Camera and Gun in Newfoundland," "Where Winter's a Pleasure,"* and *"Grouse Hunting with Ted Williams";* Rouser Room (No admission)

#### Discussion

Monday, February 3, 7:30 p.m. — *"The Draft";* North Star Ballroom (No admission)

### Lecture Series

A service of the General Extension Division; Mayo Memorial Auditorium; 8:00 p.m.; individual lectures are \$2.50; tickets sold at the door

#### The Indian's America

Wednesday, February 5 — *"Legal Tangles"*

Wednesday, February 12 — *"The Indian on the Reservation"*

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesdays, 9:00 a.m.-9:00 p.m.); Sunday, 2:00 p.m.-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge

Daily during February — *Outstanding displays of Minnesota wildlife scenes*

#### Sunday Afternoon Programs

Museum Auditorium; 2:30 and 3:30 p.m.; no charge

Sunday, February 2 — *"British Birds";* films

Sunday, February 9 — *"Endangered Wildlife";* film

#### Special Program

An adult program meeting biweekly on Wednesday evenings; title of the series, "Our Man-Handled Environment"; Museum Auditorium; 7:30 p.m.; no charge

Wednesday, February 12 — *"Agriculture and the Nutrient Enrichment of Water"* by Dr. R. F. Holt

### University Film Society

Museum of Natural History Auditorium; admission varies with film

Saturday, February 1 — *Burt Lancaster, Jean Seberg guest night*

Friday, February 7 — *"Stagecoach" (USA, 1939), 7:30 p.m.; "Jezebel" (USA, 1935), 9:15 p.m.*

Saturday, February 8 — *"Dead End" (USA, 1937), 7:30 p.m.; "Flying Down to Rio" (USA, 1933), 9:00 p.m.*

Friday, February 14 — *"Song of Ceylon" (Britain, 1934), 7:00 p.m.; "Charulata" (India, 1965), 8:00 p.m.*

### Athletic Department Events

#### Home Basketball Games

Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton's Ticket Offices

Saturday, February 1 — *Northwestern*

Tuesday, February 11 — *Wisconsin*

#### Home Hockey Games

Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton's Ticket Offices

Friday, February 7 — *University of Minnesota, Duluth*

Saturday, February 8 — *University of Minnesota, Duluth*

Friday, February 14 — *Michigan*

Saturday, February 15 — *Michigan*

#### Home Gymnastics Meets

Cooke Hall; tickets sold at gate only, Adults \$1.25, Children (under 18) \$.50

Saturday, February 1, 1:00 p.m. — *Michigan, St. Cloud State*

Saturday, February 8, 3:00 p.m. — *Wisconsin*

Saturday, February 15, 12:00 noon — *Northwest Open Meet*

#### Home Swimming Meets

Cooke Hall; tickets sold at gate only, Adults \$1.25, Children (under 18) \$.50

Saturday, February 1, 2:30 p.m. — *Indiana*

Saturday, February 8, 2:00 p.m. — *Purdue, Wisconsin*

Saturday, February 15, 2:00 p.m. — *Iowa State*

#### Home Track Meet

University Field House; 3:30 p.m.; tickets sold at gate only, Adults \$1.25, Children (under 18) \$.50

Saturday, February 1 — *Illinois*

#### Home Wrestling Matches

Williams Arena; 12:00 noon; tickets sold at gate only, Adults \$1.25, Children (under 18) \$.50

Saturday, February 1 — *Northern Iowa, Nebraska, Arizona State*

Saturday, February 8 — *Wisconsin, Indiana, Illinois*

### University Broadcasts

A service of the General Extension Division

Radio KUOM, 770 on the dial

Monday through Friday, 12:00 noon — *The Midday News*

Monday through Friday, 1:00 p.m. — *"The Afternoon Program"* with Garrison Keillor

Monday through Friday, 4:00 p.m. — *The Afternoon News* with Robert Boyle and Russell Johnson

Tuesdays, 11:15 a.m. — *"Legislature '69,"* a series of informal discussions on legislative issues

Saturdays, 11:00 a.m. — *"University Music,"* outstanding students of the University Music Department perform and discuss their career plans with Tom Collin

Saturdays, 2:00 p.m. — *"The Saturday Show,"* Marvin Granger, Garrison Keillor, and Connie Goldman present a variety of discussion and music features

University Television Hour KTCA-TV (Ch. 2) Mondays, 9:00-9:30 p.m. — *"After High School, What?"* with Leonard Bart

Mondays, 9:30-10:00 p.m. — *"Folio"* with Richard Korfhage

Tuesdays, 9:00-10:00 p.m. — *"Afro-American History"* with Allan Spear

Wednesdays, 9:00-9:30 p.m. — *"Being Young"* with Gisela Konopka

Wednesdays, 9:30-10:00 p.m. — *"Many Faces of 4-H"* with Juanita Fehlhafer

Thursdays, 9:00-9:30 p.m. — *"Confrontation"* with Forrest Harris and William Hathaway

Thursdays, 9:30-10:00 p.m. — *"Town and Country"* with Ray Wolf

Fridays, 9:00-9:30 p.m. — *"American Indians"* (starts February 14)

Fridays, 9:30-10:00 p.m. — *"Joyce Chen Cooks"*

# University of Minnesota Calendar

## Feb. 16-28, 1969

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium  
**Imperial Series**  
**Friday, February 21 — Jacqueline Du Pre, Cellist (Tickets \$3.25-\$5.75)**

### University Artists Course

Northrop Auditorium; 8:30 p.m.; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance  
**Masterpiece Series**  
**Thursday, February 20 — Isaac Stern, Violinist (Tickets \$2.00-\$5.00)**  
**Special Concert**  
**Friday, February 28 — "The Light in the Wilderness," Dave Brubeck Trio and the University Chorus and Orchestra (Tickets \$2.00-\$4.00)**

### Art Exhibitions

**University Gallery**  
 Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.  
**Through February — Paintings by Sandra Kraskin, Master of Fine Arts Candidate**  
**Wednesday, February 19 through February — University of Minnesota Graduate Photographers Show**  
**Coffman Gallery**  
 Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.  
**Monday, February 17 through February — Paintings by Bobby Biddle; Main Gallery Room**  
**St. Paul Student Center Galleries**  
 St. Paul Student Center; Sunday through Saturday, 7:30 a.m.-11:00 p.m.  
**Through Wednesday, February 26 — Printmaker's Image; Second Floor Gallery**  
**Through Friday, February 28 — Watercolors by Jake Lee; First Floor Lounge**  
**Through February — Oils by Raheel; Rouser Room Gallery**

### University Theatre

**Scott Hall Auditorium Series**  
 Scott Hall Auditorium; Thursday and Sunday, 3:30 p.m.; Thursday and Friday, 8:00 p.m.; Saturday, 7:00 and 10:00 p.m.; general admission \$2.00, students \$1.25  
**Friday and Saturday, February 21 and 22, and Thursday and Friday, February 27 and 28 — "The Beggar's Opera," by John Gay**  
**Undergraduate Series**  
 Shevlin Hall Arena Theatre; 3:30 p.m.; general admission \$2.00, students \$1.25  
**Sunday, February 16 — "Tom Thumb," by Henry Fielding**

### Music Department Programs

Northrop Auditorium; open to the public  
**Sunday, February 23, 4:00 p.m. — Concert Band Ensemble (No admission)**  
**Friday, February 28, 8:30 p.m. — University Chorus and Orchestra (Admission)**

### Convocation

**Thursday, February 20 — Henry L. Scott, pianist and concert humorist; 12:00 noon; Main Ballroom, Coffman Union (No admission)**

### St. Paul Student Center Programs

**Films**  
**Monday, February 17, 12:00 noon — "House of Dracula," Lon Chaney; North Star Ballroom (No admission)**  
**Saturday, February 22, 7:30 p.m. — "Texas Across the River" and "Gambit"; North Star Ballroom (Admission \$.75)**  
**Monday, February 24, 12:00 noon — "Mister Magoo Cartoons"; North Star Ballroom (No admission)**  
**Wednesday, February 26, 7:30 p.m. — "Ski Week with Othmar Schneider," "Batting with Ted Williams," and "Ski Happy"; Rouser Room (No admission)**  
**Special Programs**  
**Wednesday, February 26, 8:00 p.m. — North Star Concert Convocation; Preve Quartet; North Star Ballroom (No admission)**  
**Friday, February 28, 7:30 p.m. — International Festival; North Star Ballroom (No admission)**

### Lecture Series

A service of the General Extension Division; Mayo Memorial Auditorium; 8:00 p.m.; individual lectures are \$2.50; tickets sold at the door  
**The Indian's America**  
**Wednesday, February 19 — "The Urban Indian"**  
**Wednesday, February 26 — "The Indian's Future"**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesdays, 9:00 a.m.-9:00 p.m.); Sunday, 2:00 p.m.-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge  
**Daily during February — Outstanding displays of Minnesota wildlife scenes**  
**Sunday Afternoon Programs**  
 Museum Auditorium; 2:30 and 3:30 pm.; no charge  
**Sunday, February 16 — "What Can an Animal Learn?"; films**  
**Sunday, February 23 — "Our Evolving Animals"; films**  
**Special Program**  
 An adult program meeting biweekly on Wednesday evenings; title of the series, "Our Man-Handled Environment"; Museum Auditorium; 7:30 p.m.; no charge  
**Wednesday, February 26 — "Insect Outbreaks" by Dr. A. C. Hodson**

### University Film Society

Museum of Natural History Auditorium; admission varies with film  
**Friday, February 21 — "Judex, the Avenger" (France, 1963), 7:30 and 9:30 p.m.**  
**Thursday and Friday, February 27 and 28 — "Chronicle of Anna Magdalena Bach" (Germany, 1968), 3:30, 7:30, and 9:00 p.m.**

### Athletic Department Events

**Home Basketball Game**  
 Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton's Ticket Offices  
**Saturday, February 22 — Indiana**  
**Home Hockey Game**  
 Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton's Ticket Offices  
**Friday, February 28 — Colorado College**  
**Home Track Meets**  
 University Field House; tickets sold at gate only, Adults \$1.25, Children (under 18) \$.50  
**Friday, February 21, 6:00 p.m. — Northwest Open Meet**  
**Saturday, February 22, 11:30 a.m. — Northwest Open Meet**

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# minnesotan

THE UNIVERSITY STAFF MAGAZINE, MARCH, 1969

# Minnesotans React to Morrill Hall Takeover

How did the Minnesota public respond to the January 14-15 "takeover" of Morrill Hall by the Afro-American Action Committee? Was the University forecast of "wide off-campus anger and loss of confidence" borne out? What in the event was approved, and what condemned, in the state?

Editorials in the news media provide one measure of public response. The *Minnesotan* here presents an overview of editorial attitude in Minnesota papers expressed in the weeks following the event. (A brief report on telephone response and on "letters to the editor" follows.)

Anticipation that the University's course and the AAAC actions would draw adverse criticism was justified. That they also receive approval, however, appears among the editorials examined. There was outrage in some quarters, but praise in others.

Four principal issues can be identified in the editorials: whether the occupation of Morrill Hall was "justifiable," whether the University's response was wise, whether the "negotiated settlement" was reasonable, and what kind of discipline, for what actions, should be forthcoming.

## The Takeover

No editor gave unqualified approval to the occupation of Morrill Hall, and most were severely critical. A St. Paul *Pioneer Press* editorial of January 17 said that the students who took over the Hall committed "arrogant, illegal, and dictatorial acts" and "used Hitler tactics to disrupt University business and interfere with the rights of thousands." The *Minneapolis Tribune* said that despite a positive outcome, "the confrontation tactics of takeover or vandalism" could not be condoned. But a later *Tribune* editorial said that "an examination of the background indicates that the students had some legitimate grounds for complaint."

The *Minneapolis Star* said that the demonstration was "unnecessary" because the concessions won by the black students "were in the works anyhow."

An editorial in the Twin Cities *Courier* (a weekly for the black community), relating the Morrill Hall events to disturbances and demands on campuses nationwide, said, "We can't speak for white America, but the majority of black American citizens have 'had it' up to here."

A newspaper described by the *Minneapolis Tribune* as "taking a hard line on many racial issues," the Granite Falls *Tribune*, said that the takeover "makes our rural blood boil over. If the protesters don't like the university, they can go someplace else. If they don't like us, that's their problem."

Though it was unhappy with the incident, the *Waseca Journal* said, "We all must admit that blacks have cause for complaint everywhere. Perhaps they are entitled to go off in the wrong direction occasionally."

The *Red Wing Republican Eagle* expressed a similar view: "Some turbulence, some extremism, some unjustifiable Negro behavior" is bound to occur during the "social revolution in which Negroes are at long last winning an equal place in American life."

## The University's Response

Editors were more divided in evaluating the University's response. The *Minneapolis Tribune* gave President Moos and his administrators credit for reaching "an early agreement," in contrast with "the continuing turmoil on some other college campuses across the country."

The St. Paul *Pioneer Press* called the 24-hour sit-in a comparatively "mild affair" and said, "By patient negotiation and compromise under trying conditions, University officials cooled off a potentially explosive situation." President Moos "acted wisely," the editorial continued; if he had "cracked down on the trespassers" the result might have been "a bloody riot, with injuries and possible deaths, and with turmoil, confusion, and campus disruptions continuing for many days."

The *Austin Daily Herald* agreed that President Moos "probably acted wisely" in not calling for police. The *Walker Pilot* said that the President's "even touch . . . creditably solved what could have been a truly sticky undesirable revolt." And the *Rochester Post-Bulletin* said, "Moos is right in preferring broken chairs to broken heads." It expressed doubt about a similar response in a future incident, however, because "the 'soft' response may encourage irresponsible militant elements to escalate the confrontation."

The *New Ulm Daily Journal* was sharply critical: "The administration of President Malcolm Moos made a dangerous mistake to deal with the demands while the building was occupied. . . . President Moos should not have negotiated with what amounted to a gun at his head."

Equally critical, the *Mesabi Daily News* said of the student demonstrators, "If they were bent on testing the backbone of the administration to learn how far they might dare to go, they sure succeeded. There was no will to order them off the premises, no disposition to use authority."

The *Cottonwood County Citizen*, published in Windom, said that the University "capitulated to student demands made with force" and added that "unless someone is willing to stand up and be counted it won't be long before the students will be running the university."

An editorial in the *Swift County Monitor*, published in Benson, said that it was "sickening to watch centers of higher education groveling before a militant few while the vast majority of students are faced with delays in their education."

(continued on page 9)

minnesotan

Vol. 19 No. 5

Maureen Smith, Editor

Joan Friedman, Associate Editor

### ADVISORY GROUP

William L. Nunn, Director | Mitchell V. Charnley, Acting Associate Director | William T. Harris, Jr., Assistant Director | Advisory Committee: Members of the University Public Information Council. THE MINNESOTAN is published monthly October through May with the exception of January by the Department of University Relations, 220 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Subscription-free copies mailed to full-time staff members. Non-staff member subscription rate: \$2.00 per year, \$30 per copy. Copies of each issue on sale at Coffman Memorial Union Bookstore. Second class postage paid at Minneapolis, Minnesota.

ON THE COVER is the North American Nebula, from a photographic plate exposed at Mount Palomar in California. From the collection of Professor Emeritus Willem J. Luyten.

*PRINCIPAL CASHIER Marjorie J. Larson cashes a student's check at the new West Bank Bursar's Office as Account Clerk Supervisor Donald G. Gullickson looks on.*



## West Bank Bursar's Office Eases Morrill Hall Crush

In Morrill Hall, students and staff members stand in line at the cashiers' windows of the Bursar's Office, waiting to pay fees and cash checks. In the new West Bank Bursar's Office, where the same cashier function is performed, there is usually no line or a very short one.

Mrs. Marjorie J. Larson, Principal Cashier, says that the volume of business has been increasing each week since the West Bank office was opened last November for the convenience of students and staff.

"By spring quarter we should be taking quite a load off the Morrill Hall office," says Account Clerk Supervisor Donald G. Gullickson, who is in charge of the West Bank office.

Both Mrs. Larson and University Bursar Eugene Edie report that many members of the University community discovered the West Bank service when the Morrill Hall office was closed for a few days in January because of the sit-in by the Afro-American Action Committee. Existence of the West Bank office had been publicized earlier, but Mr. Edie says that it always takes a while for people to develop the habit of using a new service.

Student loans are issued in Morrill Hall only, and student loan collections are made in the West Bank office only. The functions were separated, Mr. Edie explains, because in Morrill Hall the handling of loans became

"just unbelievably crowded" and "the situation reached critical proportions."

Another service of the West Bank office is to provide a secure area for counting cash. Coins from all vending machines on campus are crated in once a week and counted by machine before being taken to a local bank for deposit.

The two Principal Cashiers in the West Bank office are Audrey E. Hoilund, who had been Principal Cashier at the Duluth Campus, and Mrs. Larson, who had worked in the Morrill Hall office.

Senior Account Clerks who handle student loans are Mrs. Janet M. Kraut, who is responsible for National Defense loans, and Renee M. Blank, whose responsibilities include short-term loans, Ford Foundation loans, and window collections.

The West Bank Bursar's Office is near the bus concourse on the street level. The entrance is east of Blegen Hall and west of the Bookstore.

A third cashier's office on the Twin Cities Campus, operating separately from the other two, is the St. Paul Cashier in 201 Coffey Hall. Principal Cashier Charlene Jernberg says that most St. Paul students use the service there and that business was unusually heavy during the time the Morrill Hall office was closed.

# Coronary Care Unit Saves Lives



*DR. HOWARD B. BURCHELL and Nurse Margaret Lemer demonstrate preparations for monitoring a patient's heart.*

Intensive care and continuous monitoring of patients with severe heart problems are provided in the new coronary care unit of the Variety Club Heart Hospital.

Dr. Howard B. Burchell, Chairman of the Coronary Care Unit Committee, says that 80 percent of all deaths from heart attacks come within the first 48 hours and another 15 percent in the next three days. Intensive care during these critical early days can significantly decrease mortality.

Dr. Burchell explains that the concept of a coronary care unit has been evolving for 15 years and that the units were first developed in small hospitals. Large institutions like University Hospitals, which already had adequate facilities and resources for treating heart patients, did not feel the need as immediately.

Thomas F. Jones, Director of the Variety Club Heart Hospital, says that the unit will provide a more efficient way of doing what has already been done. Coronary care units are not new, he says, but University specialists will be developing new techniques in this unit.

FUNDS FOR the new unit were raised by the Variety Club of the Northwest, Tent No. 12, and by the Variety Club Women. Of the \$100,000 total cost, \$65,000 was donated by the Variety Club and \$14,000 for monitoring equipment was raised by the women in their Toyland Parties of 1965 and 1966. The unit was dedicated January 20.

The unit includes four patient rooms and a nurses' desk located so that all four beds are in view. Two nurses are on duty at all times, watching the electrocardiograms of all four patients on a monitor scope. If a nurse becomes busy with one patient, the second nurse continues to monitor the other three. A "panic button" alerts the Hospital staff if both nurses must leave the monitors.

The largest of the four patient rooms has space for a

heart-lung machine so that circulation and breathing can be supported while the patient's heart rests. The three smaller rooms are planned for patients who do not need such active therapy but who do need to be watched closely. These three rooms are adjoining, with partitions that can be removed if another large room is needed.

In each room a monitor attached to the patient sets off an alarm if the heart rate becomes too fast or too slow. An electrocardiograph tape then plays back the record of heart action for 30 seconds before and 20 seconds after the alarm was sounded, so that the medical team has the information needed for treatment.

THE RECORD of any patient's heart activity can be speeded to the electrocardiograph laboratory or to the computer center to be studied or added to the store of knowledge.

A "defibrillator" is located in each room so that a patient who suffers a cardiac arrhythmia — an alteration in the rhythm of heartbeat — can be given immediate shock treatment to restore the normal heartbeat.

Specialized treatment of arrhythmias through drugs and defibrillation is one of three services provided in the new unit. A second is the anticipation and prevention of arrhythmias and other complications. When a problem is recognized and therapy instituted early enough, the coronary care unit may appear to have been unnecessary. But the unit, with its constant monitoring system, makes early detection and successful treatment possible in more cases.

The third service of the unit is support of failing circulation by mechanical means. Treatment is less successful in cases in which the patients' heart muscles are so weak that a heart-lung machine is required. Ordinarily, 90 percent of these patients die. "If we can save 30 percent or



40 percent it would be phenomenal," Dr. Burchell says. In cases of arrhythmia the Hospital staff expects to save 85 percent of the patients.

For a patient whose heart muscle has deteriorated badly, one effective treatment might be a mechanical heart. Dr. Richard L. Varco, Dr. Eugene F. Bernstein, Dr. Aldo R. Castaneda, and Dr. Richard C. Lillehei are all investigating potentialities and problems in the use of mechanical hearts.

Dr. Burchell explains that any work with mechanical hearts is in part experimental and that experimental procedures are used only if doctors know that a patient will almost certainly die without them.

IDEALLY a patient might stay in the coronary care unit for eight days, but because the unit is so expensive for both the Hospital and the patient, it has been agreed that patients will usually stay for four or five days. When a patient leaves the unit, however, he is kept close enough for adequate supervision to continue.

The monitor scope at the nurses' desk in the coronary care unit is equipped to monitor eight patients — four in the unit and four in nearby rooms. Dr. Burchell says that a patient who leaves the unit is usually reassured to know that he will be moved to a nearby room where he can still be watched on the same monitor.

The psychological security of the patients is one advantage of the coronary care unit, experience at other hospitals has shown. Patients in crises are helped by the knowledge that they are being constantly watched and that a nurse is seconds away. The design of a coronary care unit is planned as much to make the nurses visible to the patients as to make the patients visible to the nurses.

The competence and vigilance of the nurses is the key to the success of any coronary care unit. Miss Margaret Lemer, Senior General Staff Nurse, is the nurse in charge of the unit at the Variety Club Heart Hospital.

Other nurses assigned to the unit are General Staff Nurses Kristine Berlin, Natalie Blume, Sharen Knowlton, Alyce Riegel, Judi Schroth, and Marilyn Zajicek and PRN Mary Kuhn.

NURSE CLINICIAN Mary Brambilla has been working with all of the nurses, teaching them to recognize arrhythmias and other cardiovascular problems. Dr. Charles Jorgensen has also been training the nurses and has been coordinating the activities of nurses and surgeons in the unit.

The nurse is usually the one to initiate treatment when a problem arises. In treating an arrhythmia, for example, there is practically no chance of complication if defibrillation is instituted within 30 seconds. Any delay to await the arrival of a physician involves risk to the patient. Ethical-legal questions about the nurse's role in such emergency cases are still to be resolved.

Mrs. Mildred Elstad, Nursing Supervisor, says that the new unit will provide an opportunity for "very intensive attention of a nurse to one patient."

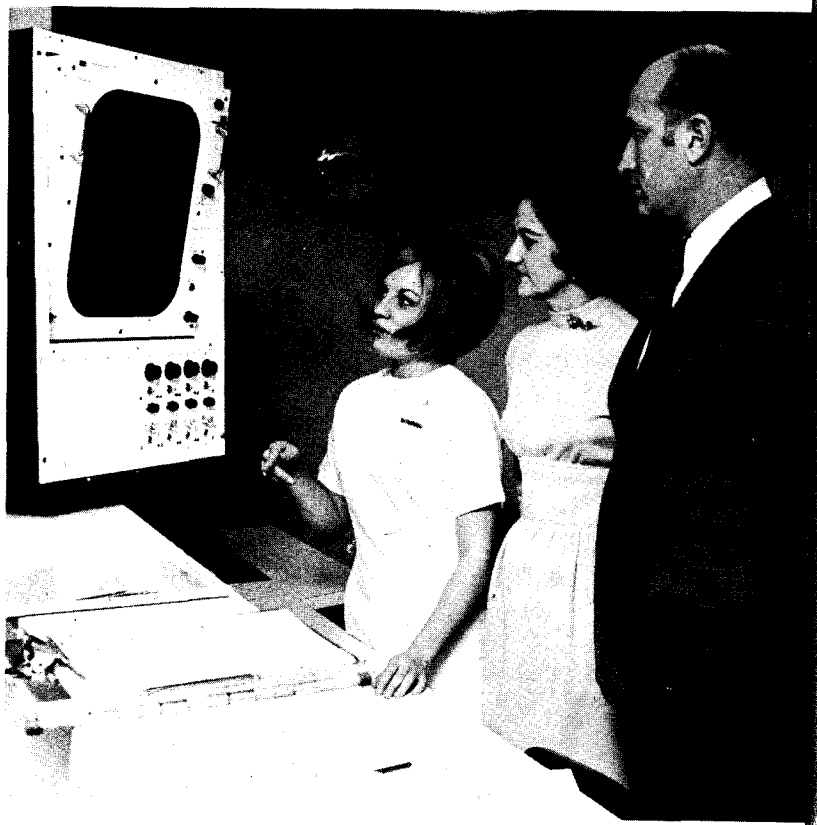
Another important contribution is being made by the Hospital's residents and interns. Dr. Charles W. Drage, Chief Resident, is coordinating their responsibilities in the unit. A small room next to the unit allows a resident on call to rest for short periods and still be available in any emergency.

The coronary care unit is under the general jurisdiction of Dr. Richard Ebert, Head of Medicine. The committee that directs policy in the unit includes Dr. C. Paul Winchell, Dr. Yang Wang, Dr. Naip Tuna, and Dr. Burchell.

Dedication of the unit on January 20 began with a luncheon in the Campus Club of Coffman Memorial Union. Speakers at an afternoon program in the Variety Club Heart Hospital were Mr. Jones; John Westerman, Director of University of Minnesota Hospitals; Dr. Ebert; Robert Karatz, Chairman of the Board of the Variety Club Heart Hospital Association; Dr. Winchell; Mrs. Edward Fiterman, President of the Variety Club Women; and Eddie Schwartz, Chief Barker of the Variety Club of the Northwest.

Guests at the dedication were taken in small groups to tour the unit.

*NURSE SHAREN Knowlton shows the monitor scope to Mrs. Edward Fiterman, President of the Variety Club Women, and Robert Karatz, Chairman of the Board of the Variety Club Heart Hospital Association.*



# Outer Space Comes C

Examining pieces of the moon is a scientist's dream — a dream that may come true at the University's new Space Science Center.

Apollo astronauts are expected to bring samples of the lunar surface when they return from their moon landing later this year, and Center Director Laurence J. Cahill, Jr., says that the preparation of laboratories for lunar sample study is being given top priority by the Space Science Center staff.

A research team led by Assistant Professor Robert O. Pepin of Physics and Associate Professor V. Rama Murthy of Geology and Geophysics is already at work on the project. They are preparing techniques and instruments for use in determining the chemical and physical structure and the history of the moon specimens.

Only in the past few years has the study of moon samples been thought of as a serious possibility, Professor Cahill says — and now "all of a sudden" the specimens will be here.

Providing facilities for research like this and other space-related research is the purpose of the Space Science Center, as specified by the National Aeronautics and Space Administration (NASA) when it granted \$2.5 million for the building. An additional \$480,000 was appropriated by the Legislature.

Center projects not financed by NASA are supported by the United States Air Force, the United States Army, the National Science Foundation, and the University itself.

UNIVERSITY departments with research projects now under way in the Center are Physics, Astronomy, Geology, Electrical Engineering, Mechanical Engineering, Chemical Engineering, Aeronautical Engineering, Mining and Metallurgical Engineering, and Environmental Health.

Professor Cahill describes the Center as "quite a loose organization" that neither proposes nor directs research in any field. Each project is the work of individual scientists — professors who have their own graduate students, undergraduates, technicians, and secretaries.

The role of the Center is to support research. Most important, it provides the needed space. Standard office services, such as mimeographing, are available to all researchers in the building. Research equipment is built and repaired in a machine shop in the basement.

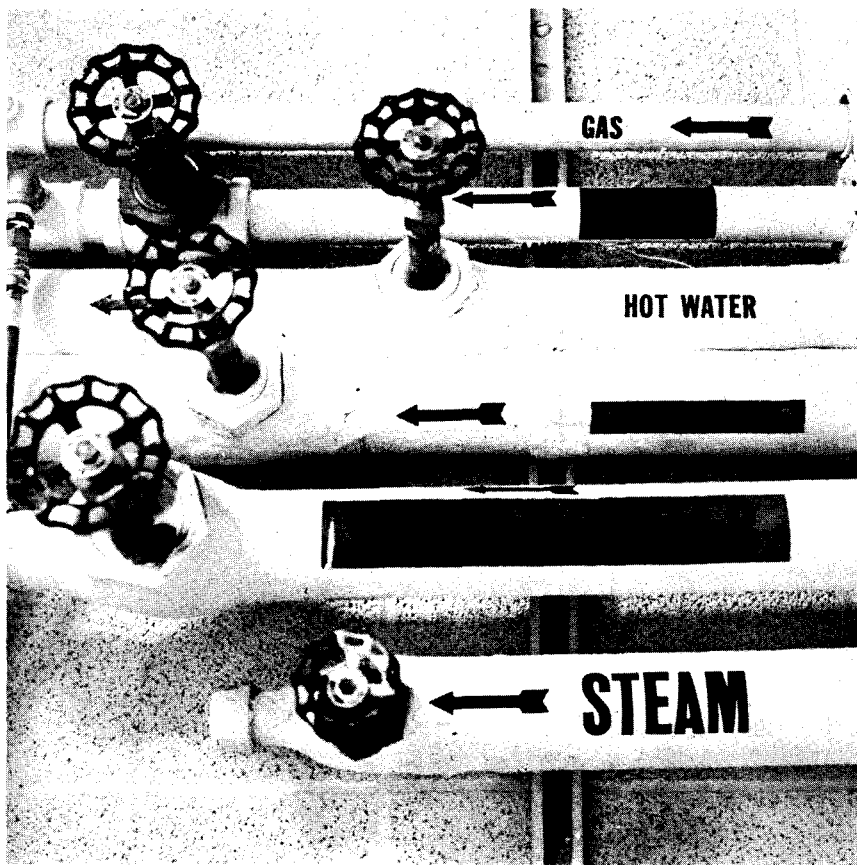
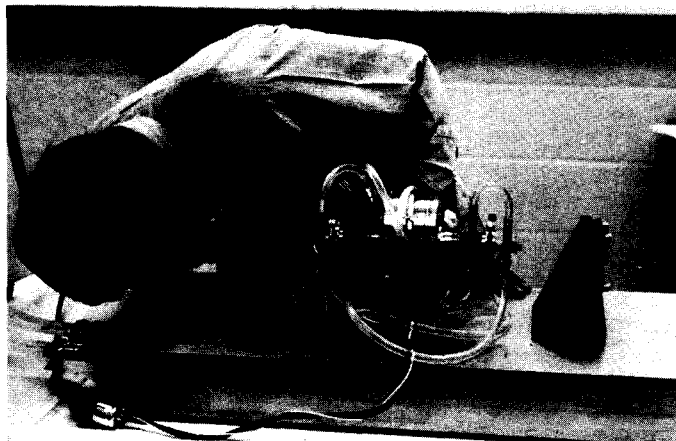
Plans for the future include an electronics shop and drafting and photographic services. The Center staff will assist researchers who ask help in writing and typing project proposals.

Offices of the Director, Assistant Director, and two secretaries are in three adjoining rooms on the first floor. Assistant Director Trygve A. Holl, the Center's "day-to-day



*ABOVE, Director Laurence J. Cahill watches as Assistant Director Trygve A. Holl draws an organizational chart. TOP RIGHT, Junior Engineer Thomas J. Holl draws a water-cooled laser. RIGHT, Locational service core provides flexibility.*

# osser for U Scientists



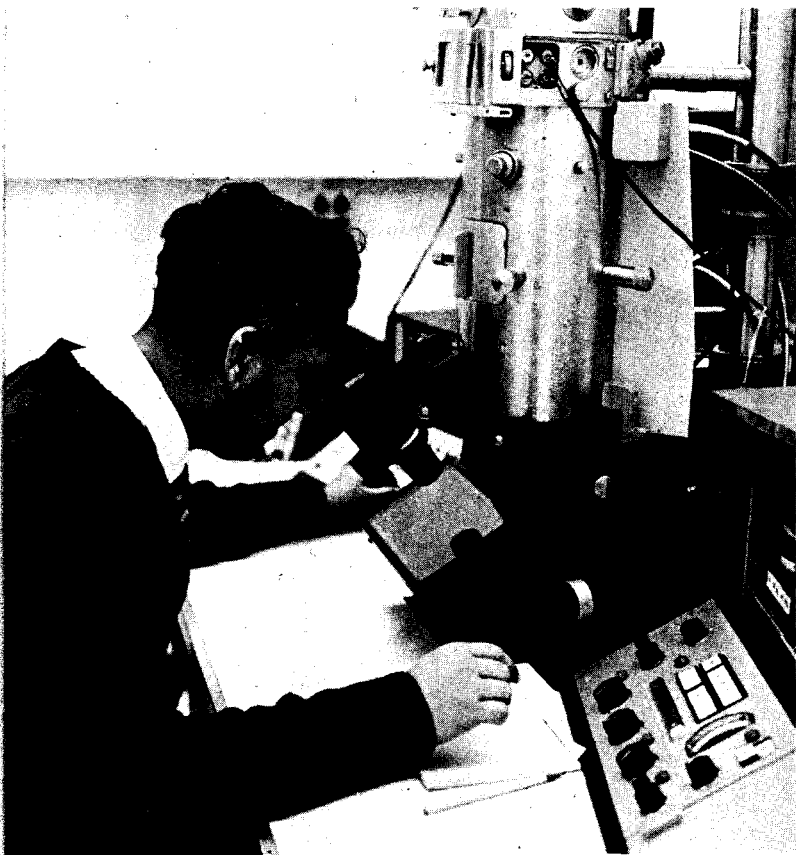
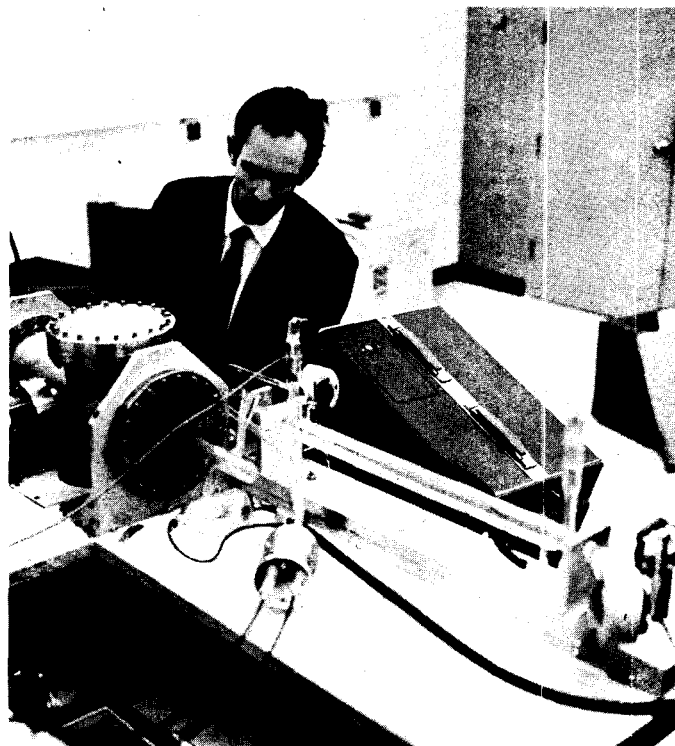
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problem solver," has primary responsibility for the physical facilities.

COORDINATING the services of the Center is not a full-time job for Professor Cahill. His appointment also includes teaching and research responsibilities. He is a Professor of Physics, and his research is investigation of the magnetic field of the earth at satellite altitude — from 8,000 to 80,000 miles above the earth's surface, in the outer regions of the magnetic field.

Professor Cahill came to the University in August from the University of New Hampshire, where he had been director of a similar but much smaller Space Science Center. The Minnesota opportunity appealed to him, he says, as a challenge — a chance to work with a new Center and try some of the ideas he had formulated at New Hampshire.

The NASA grant specifies that there be no classrooms in the Space Science Center — but that does not mean that there is not a great deal of education going on inside the building. Many graduate students are contributing to research projects and learning at the same time. Research in the Center is fundamental in nature, the basic scientific



*LEFT, Postdoctoral Fellow Visvanatha Premanand looks into the electron microscope. ABOVE, Assistant Professor Jedidja Freudenthal of Electrical Engineering works with a gas laser. TOP, Machinist Morris Odegard repairs research equipment. RIGHT, Professor Emeritus Willem J. Luyten of Astronomy examines a glass plate negative of the North American Nebula that is shown in the cover photo.*

research that is most valuable for student education and that can then be applied by industry to specific uses.

One seminar room is available for informal discussions, and blackboards in the halls allow passers-by to illustrate a point or make a computation in the middle of a corridor conversation.

SEMINARS are being planned so that researchers can explain their projects to others doing research in other parts of the building. Work in the same building does not always guarantee communication, Professor Cahill says, but the Center is trying to promote an exchange of ideas.

A research project directly related to space travel is the one led by Professor Irving J. Pflug of Environmental Health. The planetary quarantine team is studying ways to prevent a spacecraft from biological contamination of a planet it visits. A single earth microbe introduced on another planet could destroy much of the life there — or if there is no life and the planet is fertile, the earth microbe turned loose without enemies or competition could quickly multiply and fill the planet. Such research in the Space Science Center is part of a larger study directed by Professor Richard G. Bond of Environmental Health.

A different kind of project is work with electron microscopes, which have magnification far greater than optical microscopes and thus allow the study of matter in very

great detail. Associate Professor Thomas E. Hutchinson of Mining and Metallurgical Engineering directs this research.

Professor Robert J. Collins, Head of Electrical Engineering, is working with lasers to investigate the structure of matter. Associate Professor Peter G. Roll and Professor Neville Woolf are conducting research in infrared astronomy. Professor Emeritus Willem J. Luyten of Astronomy is studying the movement of stars by working with photographic plates that he exposed at Mount Palomar in California.

Also in the Space Science Center are the administration of University Computer Services, under Director Frank Verbrugge, and the Hybrid Computer Laboratory, directed by Dr. Stephen J. Kahne.

To serve the diverse research projects and to allow for new directions in future research, the Center was built with flexible facilities. A service core with plumbing, electrical wiring, natural gas, and other gases backs the laboratory areas, and each scientist can choose the services he needs piped into his laboratory. This system, described in the February 1968 *Minnesotan*, has been working very well, Professor Cahill says, although there have been unanticipated expenses.

Research teams in the Center will come and go, Professor Cahill says. Scientists will complete their space-related studies and move to something else. Predictions about the future are "obviously risky" in a field like space research, Professor Cahill says, but he offers his opinion — "or guess" — that key projects in the Center over the years will be astronomy research (especially infrared astronomy), lunar samples study, and planetary quarantine research.

## Minnesotans React

(continued from page 2)

The *Twin Cities Courier* said, "Most disturbing of all is the pat pattern apparent across the land, and the evident tendency to 'run scared' at the drop of a threat and intimidating 'or else' posture."

### The Settlement

Editors critical of the University for negotiating with the students who held Morrill Hall were sometimes implicitly critical of the settlement. The *New Ulm Daily Journal's* dissatisfaction was explicit: "The University of Minnesota administration appears to have granted 100 per cent of the demands of the black students who took over the administration building Tuesday." The incident was viewed as a "bad example" and a "sellout that could be expensive."

Minneapolis *Tribune* columnist Robert T. Smith, addressing his comments to Philip Upton, the white student



who was injured slightly when trying to enter Morrill Hall, expressed the same opinion in an ironic tone: "And everything turned out all right, Phil. They called it a compromise, but I'd say the aggressors got pretty much what they wanted. For the moment."

A contrasting view in the Minneapolis *Star* described the accord as a "compassionate, sensitive settlement." The St. Paul *Pioneer Press* said that "University representatives made some concessions, but only to a rather reasonable degree." Its sister paper, the *Dispatch*, said that "nothing fundamental was given away . . . nothing unreasonable was conceded." The Minneapolis *Tribune*, in an editorial answering angry letters to the editor, said that the agreement reached "was not a cave-in, as some readers have contended. It was a genuine compromise."

### What About Discipline?

Most editors called for disciplining of those responsible for damages to Morrill Hall — or of all students involved in the takeover. Some editors expressed willingness to leave the matter to University officials.

The *Cottonwood County Citizen* called for expulsion, fines, and jail sentences. The New Ulm *Daily Journal* said, "Strewing official school records around inside the building was juvenile delinquency and every effort should be made to have those responsible disciplined."

The *Kanabec County Times*, Mora, said, "Students who destroy property should be compelled to pay for the damages. . . . It's time to clamp down!" The *Redwood (Falls) Gazette* called for a grand jury investigation "unless the intention is that a student-faculty committee will kill time until it all blows over."

The *Austin Daily Herald* said that the public, "which through taxes pays for most of the cost of the students' education, would find it difficult to understand should the students not be punished in proportion to their offenses." If there is not adequate punishment, the *Herald* said, students "would be encouraged to stage similar demonstrations in the future to try to get whatever they want."

WCCO-TV editorialist George Rice spoke of "destruction without reason, without excuse" and said that "punishment must come, and it must be swift and severe."

The Minneapolis *Star* said on the "sticky issue of discipline" that the University has a "duty to punish those who passed the generous bounds for demonstrations" that it has granted.

The St. Paul *Pioneer Press* said, "This is a matter which should be left to University authorities, but the general public reaction surely will be that such misconduct deserves some penalty."

The Minneapolis *Tribune* reminded those who were "tempted to demand a tough disciplinary policy" that "discipline or punishment often is difficult because of the problem of pinpointing blame, or because of the danger that this would escalate the conflict."

A later editorial in the *Tribune* said that although nothing can justify the property damage, "this was not the first time, nor will it be the last, that frustrations or high emotions have led to excessive actions." The "wild celebration" in Detroit after that city's team won a baseball pennant resulted in "extensive property damage," and the underlying issue in the Morrill Hall case was "much more significant than a baseball championship."

The basic question on which Minnesota editors were divided was whether the University was right in trying to reach an accommodation with the students. WCCO-TV's Rice said that the University is motivated by rationality and a desire for accommodation, but that "the other side scorns these values." The University, he said, "must stand up against the forces of irrationality which are the deadliest enemies of a University and of a democracy."

The Minneapolis *Tribune*, on the other hand, citing the example of San Francisco State College, said that "the hard-line response will not work." The *Tribune* concluded, "The Manchester *Guardian*, commenting on the Irish riots, contends that those who 'think repression will restore peace and reasonable harmony . . . are grievously wrong.' We believe that those who think repression will bring peace to the campuses or the cities here are just as wrong."

In summary: Of the 39 editorials examined in preparing this article, 11 may be called positive toward the University or the participants, 14 negative, and 14 "in the middle" — discerning pluses and minuses, or using the situation as a springboard for general discussion.

### Letters and Phone Calls

An editor of the St. Paul newspapers described letters-to-the-editor response as "light, but 80 percent angry." A Minneapolis editor said that letters immediately after the event (some written before the settlement) were critical of complaining students and of University failure to employ force in clearing Morrill Hall; but those a week or more later, he said, were both "more thoughtful and generally approving." Favorable letters used such terms as "reasonable compromise," "wise restraint," "protection of records," and "[the University] kept its cool."

University switchboards and President Moos's telephone kept hot in the hours during and immediately after the takeover. President Moos received abuse and angry advice (some of it in small hours of the morning). Epithets like "criminal," "lawless," and "trouble-makers" were applied to students involved, and the University was called "weak-kneed," "shameful," and "spineless." A number of callers objected to "failure to protect property," and a number to the fact that students were being denied "legitimate access" to the Recorder's and Bursar's offices. But one call said, "I think President Moos handled the situation beautifully," and a few others expressed favorable views.

## Recent Staff Publications

Dr. Melvyn S. Berger, Associate Professor of Mathematics, and Dr. Marion S. Berger, Lecturer of Mathematics, coauthors, *Perspectives in Nonlinearity*, W. A. Benjamin Publishers.

Dr. Ernest G. Bormann, Professor of Speech, Communication, and Theatre Arts, *Discussion and Group Methods: Theory and Practice*, Harper and Row.

Dr. Robert L. Scott, Professor of Speech, Communication, and Theatre Arts, coeditor, *The Rhetoric of Black Power*, Harper and Row.

# University of Minnesota Calendar

## Mar. 1-15, 1969

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

**Sunday Concert Series**  
Northrop Auditorium; 4:00 p.m.

**Sunday, March 9 — Norman Luboff Choir**  
(Tickets \$2.25-\$4.75)

### University Artists Course

Northrop Auditorium; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

**Masterpiece Series**  
Northrop Auditorium; 8:30 p.m.

**Saturday, March 1 — Artur Rubinstein, Pianist** (Tickets \$2.50-\$6.00)

**Celebrity Series**  
Northrop Auditorium; 8:30 p.m.

**Wednesday, March 5 — Ferrante and Teicher, Duo-pianists** (Tickets \$2.00-\$5.00)

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through Sunday, March 9 — University of Minnesota Graduate Photographers Show**

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.

**Monday, March 10, through Friday, April 4 — Nine Minnesota Photographers; Main Gallery**

#### St. Paul Student Center Galleries

St. Paul Student Center; Monday through Saturday, 8:00 a.m.-10:00 p.m.; Sunday, 12:00 noon-10:00 p.m.

**Through Sunday, March 2 — Oils by Rachel; Rouser Room Gallery**

**Monday, March 3, through Monday, March 17 — Watercolors and Prints by Jacki Page; Rouser Room Gallery**

**Sunday, March 9 — Town and Country Art Show; Second Floor Gallery**

### University Theatre

#### Scott Hall Auditorium Series

Scott Hall Auditorium; Saturday, 7:00 and 10:00 p.m.; Sunday, 3:30 p.m.; general admission \$2.00, students \$1.25

**Saturday and Sunday, March 1 and 2 — "The Beggar's Opera" by John Gay**

### Music Department Programs

Open to the public without charge

**Sunday, March 2, 4:00 p.m. — Symphony Bands; Northrop Auditorium**

**Thursday, March 6, 8:00 p.m. — Joanne Elstrom, Piano Recital; Scott Hall Auditorium**

### St. Paul Student Center Programs

#### Films

**Saturday, March 1, 2:00 p.m. — Moppet Matinee; North Star Ballroom; no admission**

**Monday, March 3, 12:00 noon — Laurel and Hardy; North Star Ballroom; no admission**

**Wednesday, March 12, 7:30 p.m. — "1964 America's Cup Races," "Come Camping in Alaska," and "Gunning the Flyways"; Rouser Room; no admission**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesdays, 9:00 a.m.-9:00 p.m.); Sunday, 2:00 p.m.-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge

**Daily during March — Outstanding displays of Minnesota wildlife scenes**

**Sunday Afternoon Programs**  
Museum Auditorium; 2:30 and 3:30 p.m.; no charge

**Sunday, March 2 — "The Challenge of Bird Photography" by Dr. Horace Scott**

**Sunday, March 9 — "More Endangered Wildlife"; film**

#### Special Program

An adult program meeting biweekly on Wednesday evenings; title of the series, "Our Man-Handled Environment"; Museum Auditorium; 7:30 p.m.; no charge

**Wednesday, March 12 — "Beneficial Bacteria" by Dr. S. Dagley**

### Athletic Department Events

#### Home Basketball Games

Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton's Ticket Offices

**Tuesday, March 4 — Iowa**

**Saturday, March 8 — Michigan State**

#### Home Hockey Game

Williams Arena; 8:00 p.m.; reserved seats \$2.25, general admission \$1.50; over-the-counter sale opens Monday before each game at Cooke Hall and all Dayton's Ticket Offices

**Saturday, March 1 — Colorado College**

### University Broadcasts

A service of the General Extension Division

Radio KUOM, 770 on the dial

**Monday through Friday, 12:00 noon — The Midday News**

**Monday through Friday, 1:00 p.m. — "The Afternoon Program" with Garrison Keillor**

**Monday through Friday, 4:00 p.m. — The Afternoon News with Robert Boyle and Russell Johnson**

**Tuesdays, 11:15 a.m. — "Legislature '69," a series of informal discussions on legislative issues**

**Saturdays, 11:00 a.m. — "University Music," outstanding students of the University Music Department perform and discuss their career plans with Tom Collin**

**Saturdays, 2:00 p.m. — "The Saturday Show," Marvin Granger, Garrison Keillor, and Connie Goldman present a variety of discussion and music features**

**University Television Hour** KTCV-TV (Ch. 2)

**Mondays, 9:00-9:30 p.m. — "After High School, What?" with Leonard Bart**

**Mondays, 9:30-10:00 p.m. — "Folio" with Richard Korfhage**

**Tuesdays, 9:00-10:00 p.m. — "Afro-American History" with Allan Spear**

**Wednesdays, 9:00-10:00 p.m. — "Our Man-Handled Environment" with Walter Breckenridge and Richard Barthelemy**

**Thursdays, 9:00-9:30 p.m. — "Confrontation" with Forrest Harris and William Hathaway**

**Thursdays, 9:30-10:00 p.m. — "Town and Country" with Ray Wolf**

**Fridays, 9:00-9:30 p.m. — "The People," a series about the American Indian**

**Fridays, 9:30-10:00 p.m. — "Sock-It-To-'Em-ism" with Luther Gerlach**

# University of Minnesota Calendar

## Mar. 16-31, 1969

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium; 8:30 p.m.

**Friday, March 21 — Emil Gilels, Pianist**  
(Tickets \$3.25-\$5.75)

**Friday, March 28 — Philippe Entremont, Pianist**  
(Tickets \$3.25-\$5.75)

#### Thursday Concert Series

Northrop Auditorium; 8:00 p.m.

**Thursday, March 20 — Emil Gilels, Pianist**  
(Tickets \$3.25-\$5.75)

**Thursday, March 27 — Philippe Entremont, Pianist**  
(Tickets \$3.25-\$5.75)

#### Sunday Concert Series

Northrop Auditorium; 4:00 p.m.

**Sunday, March 23 — George Shearing Quintet**  
(Tickets \$2.25-\$4.75)

### University Artists Course

#### Special Concerts

**Sunday, March 16, 4:30 p.m. — Student Symphonies of Greater Minneapolis; Howard Evenson, Conductor; Northrop Auditorium; no admission**

**Wednesday, March 26, 8:00 p.m. — Ario Renaissance Ensemble; Mayo Memorial Auditorium; no admission**

### Convocation

**Thursday, March 27 — Henry Hewes, Drama Critic; time and place to be announced; no admission**

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Sunday, March 16, through Tuesday, April 15 — The Artist and the Factory**

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.

**Through March — Nine Minnesota Photographers; Main Gallery**

#### St. Paul Student Center Galleries

St. Paul Student Center; Monday through Saturday, 8:00 a.m.-10:00 p.m.; Sunday, 12:00 noon-10:00 p.m.

**Through Monday, March 17 — Watercolors and Prints by Jacki Page; Rouser Room Gallery**

**Monday, March 17, through Monday, March 31 — Acrylics by Mary Swanson; Rouser Room Gallery**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesdays, 9:00 a.m.-9:00 p.m.); Sunday, 2:00 p.m.-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge

**Daily during March — Outstanding displays of Minnesota wildlife scenes**

#### Sunday Afternoon Programs

Museum Auditorium; 2:30 and 3:30 p.m.; no charge

**Sunday, March 16 — "Minnesota Bird Calls"**

**Sunday, March 23 — "Winter Is Gone"**

#### Special Program

An adult program meeting biweekly on Wednesday evenings; title of the series, "Our Man-Handled Environment"; Museum Auditorium; 7:30 p.m.; no charge

**Wednesday, March 26 — "World Food Problems" by Dr. LaVell M. Henderson**

### Athletic Department Events

#### Home Track Meets

University Field House

**Tuesday, March 25, 5:30 p.m. — Suburban Invitation Meet Prelims (adults \$1.25, children \$.50, tickets sold at gate only)**

**Wednesday, March 26, 6:30 p.m. — Suburban Invitational Meet Finals (adults \$1.25, children \$.50, tickets sold at gate only)**

**Thursday, March 27, 2:30 p.m. — Metropolitan High School Prelims (free)**

**Friday, March 28, 1:30 p.m. — Out-State Prelims (free)**

**Friday, March 28, 6:30 p.m. — Metropolitan High School Finals (adults \$1.25, children \$.50, tickets sold at gate only)**

**Saturday, March 29, 8:00 a.m. — Private and Parochial Meet (adults \$1.25, children \$.50, tickets sold at gate only)**

**Saturday, March 29, 12:15 p.m. — Out-State Finals (adults \$1.25, children \$.50, tickets sold at gate only)**

### University Broadcasts

A service of the General Extension Division

**Radio KUOM, 770 on the dial**

**Monday through Friday, 12:00 noon — The Midday News**

**Monday through Friday, 1:00 p.m. — "The Afternoon Program" with Garrison Keillor**

**Monday through Friday, 4:00 p.m. — The Afternoon News with Robert Boyle and Russell Johnson**

**Tuesdays, 11:15 a.m. — "Legislature '69," a series of informal discussions on legislative issues**

**Saturdays, 11:00 a.m. — "University Music," outstanding students of the University Music Department perform and discuss their career plans with Tom Collin**

**Saturdays, 2:00 p.m. — "The Saturday Show," Marvin Granger, Garrison Keillor, and Connie Goldman present a variety of discussion and music features**

**University Television Hour KTCA-TV (Ch. 2)**

**Mondays, 9:00-9:30 p.m. — "After High School, What?" with Leonard Bart**

**Mondays, 9:30-10:00 p.m. — "Folio" with Richard Korfhage**

**Tuesdays, 9:00-10:00 p.m. — "Afro-American History" with Allan Spear**

**Wednesdays, 9:00-10:00 p.m. — "Our Man-Handled Environment" with Walter Breckenridge and Richard Barthelemy**

**Thursdays, 9:00-9:30 p.m. — "Confrontation" with Forrest Harris and William Hathaway**

**Thursdays, 9:30-10:00 p.m. — "Town and Country" with Ray Wolf**

**Fridays, 9:00-9:30 p.m. — "The People," a series about the American Indian**

**Fridays, 9:30-10:00 p.m. — "Sock-It-To-'Em-ism" with Luther Gerlach**

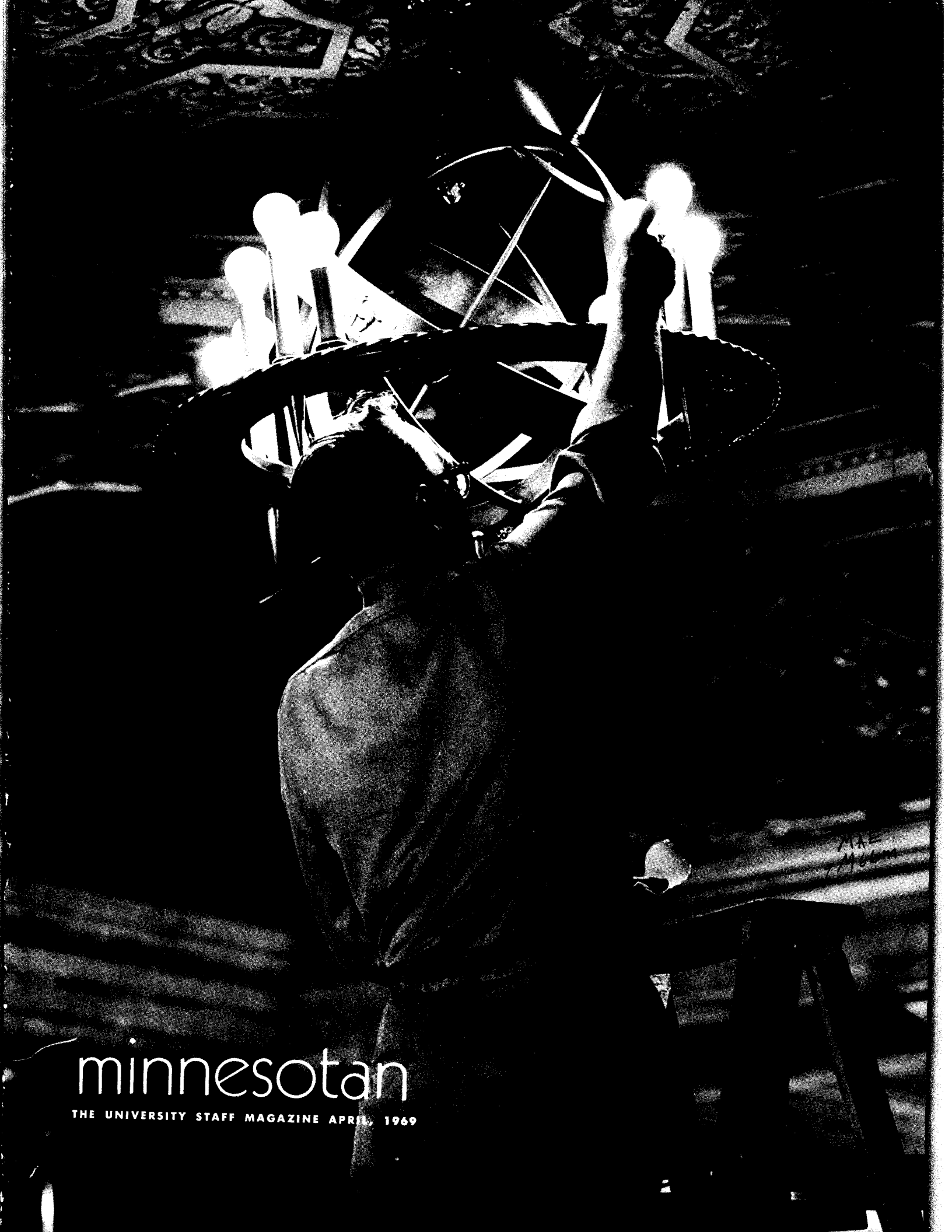
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THE UNIVERSITY STAFF MAGAZINE APRIL, 1969

# University's Student Mix 'Matures'

Better balance in the University's "student mix" will develop as upper division and graduate enrollments grow.

This is the judgment of two University vice presidents and two associate deans of the College of Liberal Arts, the college that enrolls most of the University's lower division students.

What the shifting student profile will mean to the University is being discussed on the second floor of Morrill Hall, in faculty offices all over the campus, in the halls of the State Capitol, in the pages of the *Minnesota Daily*. Administrators, professors, legislators, and students do not always agree on the answers, but they are asking the questions.

## The Student Mix

"Of the universities of comparable quality we're skewed to the lower division more than any that I know of," says Vice President for Administration Donald K. Smith. "Historically this University has had larger numbers in lower division than would be considered a desirable ratio."

Vice President for Academic Administration William G. Shepherd explains a prime reason for the imbalance. Until recently the University was the only public institution of higher learning in the metropolitan area, and it "served the role of a junior college for many of its students."

With the development of the junior college system in the state—a development the University has supported—the University is free to "move toward a more rational balance," Vice President Smith says.

The extent to which the University has already moved toward increase in upper division and graduate courses is shown in a comparison of student credit hours in the fall quarters of 1959 and 1968. (Student credit hours are computed by multiplying the number of students in a class by the credit hours.)

Although there were increases at all levels, the increase for courses numbered 1 to 49 was only 50 percent. The increase at the 50 to 99 (upper division) level was 200 percent, at the 100 to 199 (upper division and graduate) level 160 percent, and at the 200-plus (graduate) level 170 percent. An even more dramatic contrast is seen in CLA courses only: the increase at the 1 to 49 level was about 50 percent, but at all three higher levels over 200 percent.

Plans for 1980 are that lower division students will constitute 33 percent of the student population, upper division 33 percent, and graduate students 34 percent. Almost half of the students are now in the lower division.

Balance in student population offers both educational and economic advantages. Among them:

- Students benefit from contact with others in different disciplines and at different academic stages. "One of the things we do for a freshman," says CLA Associate Dean Roger B. Page, "is to show him how a junior behaves and

how a graduate student behaves."

- Advanced graduate students benefit from the opportunity to teach lower division students. Because many graduate students are preparing for college teaching careers, CLA Associate Dean Lloyd H. Lofquist says, they "ought to experience this as part of their education." And the stipends they earn provide needed financial support. The extent to which graduate students will teach lower division courses as the student population shifts is one of the questions under discussion, but no one is suggesting that graduate students should not teach at all.

- Professors benefit by teaching both advanced courses and seminars and general education courses in lower division. A professor who teaches only general education courses may become unaware of recent developments in the field of his specialty. A professor who teaches only advanced seminars may become too narrow. When he teaches a general education course, Vice President Shepherd says, he is better able to put his specialty into perspective.

Economies are possible in lower division education that are not equally possible at higher levels. Vice President Smith says. At the same time, a University move toward more upper division and graduate courses makes economic sense for the state educational system as a whole.

That education is more expensive at higher levels is reflected in the University's request to the Legislature for funds—funds for additional faculty members and expanded physical facilities. But the state has already invested heavily in building the University as its only Ph.D.-granting institution, and University administrators say that a shift toward upper division and graduate education is the best way to make use of present and planned resources. The resources are limited, and choices have to be made.

Dean Page speculates about what a change in the student mix will do to "the personality of the campus." A college junior is different from a high school senior who has just become a freshman, and when two-thirds of the students are juniors or above, "one expects that the student body would be more mature." Other changes, he suggests, might be an increased proportion of men, a higher number of married students, and a slight decrease in the proportion of commuters. All of this would have implications, for example, for "the type of housing that the University supports or encourages." Student participation in University decision-making might be accelerated.

## General Education Needs

The planned shift in the student profile will not be an earthquake. The percentage of underclassmen may decrease by more than 15 percent, and the percentage of graduate students may increase by almost as much, but both groups are large now, and will continue large.

minnesotan

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Maureen Smith, Editor

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### ADVISORY GROUP

William L. Nunn, Director | Mitchell V. Charnley, Acting Associate Director | William T. Harris, Jr., Assistant Director | Advisory Committee: Members of the University Public Information Council. THE MINNESOTAN is published monthly October through May with the exception of January by the Department of University Relations, 220 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Subscription-free copies mailed to full-time staff members. Non-staff member subscription rate: \$2.70 per year, \$.30 per copy. Copies of each issue on sale at Coffman Memorial Union Bookstore. Second class postage paid at Minneapolis, Minnesota.

ON THE COVER is a building caretaker changing a light bulb in a Walter Library fixture.

No one responsible for planning the University's future shows inclination to neglect the general education needs of lower division students. For one thing, there will be "just too many of them" to ignore. Vice President Smith says that the absolute number of lower division students "will not decline dramatically for some years"; the decline will be in proportion.

Fears have been expressed by some staff members that growth of the Graduate School will mean an increased specialization that will spill over even into introductory courses. One man concerned about the quality of undergraduate education says that "we are offering specialization now in the guise of general education." Undergraduate education, he says, is too often "a net to catch the brightest students and draw them toward the specialists."

These fears would be justified, Vice President Smith says, "if we allowed ourselves to get into a profile with only 10 percent of students in the lower division." Some institutions are in danger of neglecting general education, he says, because of their "overwhelming proportion" of graduate students.

Whether general education is general enough continues to be the subject of disagreement. Some of those who believe it is not view the enrollment trends with alarm; others see the two issues as entirely separate.

Dean Lofquist speaks of "several departments that put a very high priority on having introductory courses taught by their most able faculty." In his department, Psychology, the beginning course is presented on video tape by top professors. Tapes are reviewed frequently to keep the course "the best that it can be."

In spite of the desire "to expose undergraduates to the most highly educated people we have," Dean Lofquist says, the "sheer force of numbers" makes it necessary to use instructors and teaching assistants in some sections of lower division. The type of basic material presented makes this feasible.

For the same reasons, undergraduates — especially underclassmen — are often taught in large lecture classes. Vice President Smith says that even in the lower division there is a "great need to maintain a proper mix between large and small classes." Freshmen and sophomores need to be in classes small enough for discussion. But certain kinds of instruction that an underclassman needs can be offered in large groups — and "if it's 150 or 200 it might as well be 400 or 600."

## The Faculty Profile

Vice President Smith anticipates no "major shift in the profile of the permanent faculty." The University's graduate obligations are already so heavy that "we recruit with these needs in mind." A member of the permanent faculty is rarely hired to teach lower division courses only.

Dean Page suggests that with the growth of the Graduate School some departments might be able to hire faculty members representing "marginal specialties" that could not be justified now.

A more significant change might be expected in the use of teaching assistants. But there is disagreement about the direction of change.

As the proportion of lower division courses declines, Vice President Smith says, the percentage of the total instructional load carried by teaching assistants will also

decline.

At the same time, because there will be more graduate students seeking teaching experience and financial support, there might be pressure to assign a higher percentage of lower division courses to teaching assistants. Some staff members see "built-in momentum" in this direction.

Vice President Smith says that the lower division has already "reached about the maximum saturation" of teaching assistants and adds, "I would hope, on the contrary, to increase the use of senior professors in the lower division." Staffing of courses depends on the resources available to a department, Vice President Shepherd explains. Generally it has been "a joint departmental-collegiate decision," but "centrally we would encourage senior faculty to provide instruction at the lower division level."

No one doubts that a large number of graduate students will continue to hold teaching assistantships, but as the Graduate School grows the percentage of students given such appointments is likely to decline. Other ways might be found to meet the financial needs of graduate students. Vice President Smith anticipates stronger federal support for graduate instruction. Dean Page suggests teaching opportunities at the local junior colleges.

## Student-Faculty Ratios

Any consideration of the impact of growing upper division and graduate enrollments centers on the question of student-faculty ratios. The University's request for additional academic staff has been calculated on the basis of different ratios for different types and levels of instruction.

For most lower division students a ratio of 20 to 1 is asked. For most upper division students and for lower division students in the technical fields that require a good deal of laboratory work, the ratio is 16 to 1. For graduate students at the master's level and upper division students in technical and professional areas, the requested ratio is 13 to 1. A ratio of 6.5 to 1 is asked for students in the clinical fields and graduate students at the Ph.D. level.

These ratios are "simply an index of total need," Vice President Smith says. Ratios cannot be used to determine the optimum size of an individual class or the number of teachers that any individual department needs.

Vice President Shepherd explains that one reason for the smaller ratios at upper division and graduate levels is simply "a fanning out of a rather large lower division student body into a variety of individualized tracks." Because there are fewer students wanting to take each course at the higher levels, more professors are needed "just to man the classes."

Dean Page says that although "the ratio is a construct," it is a "crude indication" of how an institution is serving its students. The student-faculty ratio — a long-standing educational statistic, he points out — is used by high schools and junior colleges as well as colleges and universities.

Ratios "must seem peculiar to the students," Dean Page says — especially to a lower division student who has never been in a class with as few as 20 students. He illustrates the difficulty of arriving at ratios: if a facul-

(continued on page 9)

Photograph by Ralph Fernandez



Mrs. Rita Shemesh, executive secretary of the Minnesota Committee for University Health Sciences, reads letters supporting the University proposal.

# Minnesota's Search for Doctors

FROM GOVERNOR Harold LeVander to scores of civic leaders to the citizens of towns without doctors, Minnesotans concerned about the critical shortage of health manpower have been giving support to the University Health Sciences proposal.

Both the Governor's endorsement and the broad-based citizen support have been hailed by the two men who head the statewide committee sponsoring the proposal.

"Governor LeVander's recognition of the urgency of the impending crisis Minnesota faces in the health manpower shortage and the University's role in solving this problem is heartening to all of us," Gerald T. Mullin says of the Governor's January 29 message to the Legislature.

Mullin, of Minneapolis, is chairman of the Minnesota Committee for University Health Sciences. Cochairman A. A. Heckman of St. Paul says that the Governor's action will "give impetus to the rapidly expanding citizen participation and support" the Health Sciences proposal is receiving throughout Minnesota.

The Committee was formed to call attention to the shortage of health professionals in the state and to support the University's program for the development of its Health Sciences Center.

RESPONSE INDICATES that the need for more health manpower is already acutely felt in both urban and rural Minnesota.

"In the rural areas we are getting very impatient and want to get something like this going as rapidly as possible," said one letter to Mullin.

Other letters quoted by Mullin include these comments:

• "I commend you for your efforts to provide the kind of resources our people so desperately need. I am excited about the possibilities of your program. I will try to assist you in every way I can . . . ."

• "I realize how important this organization could be because our neighboring town is in dire need of a doctor. We are among the more fortunate with two good doctors in our town."

• ". . . it is common knowledge that the need is very great. The scarcity of qualified men and women in these fields is frightening."

• "I have been much concerned by the need for medicals, especially in the rural areas of Minnesota. . . . This town has endeavored to get a resident doctor for the eight years since it lost its two doctors. . . . The situation is critical in a number of areas of the state."

Associate chairmen of the Committee are Jay Phillips, Sander D. Genis and Roy Larsen of Minneapolis and Supreme Court Justice Oscar R. Knutson of St. Paul.

As the *Minnesotan* went to press, more than 200 civic leaders from throughout the state had agreed to serve as members-at-large.

MEMBERS-AT-LARGE support the Health Sciences proposal by giving speeches and slide presentations, talking to legislators, distributing brochures, and writing to their local newspapers.

A slide presentation with accompanying script and narration is available to anyone who wishes to speak to a group about the program.

Mrs. Rita Shemesh, executive secretary of the Committee, is handling requests for use of the slides and other informational requests. Headquarters of the Committee

are in Room 100, Hubbard Building, 2675 University Ave., St. Paul, Minn. 55114. The telephone number is 373-2126.

William L. Nunn is executive director and Vice President Stanley J. Wenberg is chairman of the executive committee. Also included on the executive committee are Dean Robert B. Howard, College of Medical Sciences; Dean Erwin M. Schaffer, School of Dentistry; Dean Lawrence C. Weaver, College of Pharmacy; Dean William T. S. Thorp, College of Veterinary Medicine; and Director John H. Westerman, University Hospitals.

Besides the hundreds of individuals who have given their support to the Health Sciences proposal — by writing letters or becoming members-at-large — thousands of other Minnesotans have supported the proposal through their organizations.

ENDORSEMENTS had come from 133 organizations by early March. This number includes the founding professional organizations — the Minnesota State Dental Association, the Minnesota Hospital Association, the Minnesota Academy of General Practice, the Minnesota State Medical Association, the Minnesota League of Nursing, the Minnesota Nurses Association, the Minnesota State Pharmaceutical Association, the Minnesota Public Health Association, and the Minnesota State Veterinary Medical Association.

Other organizations endorsing the proposal include statewide groups and local groups, groups with a specialized interest in health and groups whose interest is that of concerned citizens. Examples show the diversity: Minnesota Congress of Parents and Teachers, Anoka Mental Health Association, Little Falls Mrs. Jaycees, Winona County Farmers Union, Northfield City Hospital Auxiliary, Willmar Trades and Labor Assembly, City of Alexandria, Minnesota District Judges Association, Minnesota High School Press Association.

In his January 29 budget address to the Legislature, Governor LeVander recalled the recent tribute paid by

the people of Belgrade, Minn., to the town's only doctor. "The message was clear," the Governor said. "Belgrade did not want to lose its family physician.

"Other communities have not been so fortunate nor had such foresight. Long ago, they watched their doctors leave."

"One of the urgent needs of our people is to provide more doctors, dentists, and paramedical personnel," the Governor told the legislators. "Recognizing this fact, I recommended and you appropriated funds for a planning study on the proposed Health Sciences Center at the University. The study has concluded that the Center should be built in three stages, the first stage costing \$25 million, \$13 million in federal funds, \$12 million in state money.

"The Center would give impetus to the special department for training general practitioners in addition to dental, basic science, pharmaceutical, and paramedical education. Therefore, I recommend, conditioned on the fact that the Federal government shall not be 4-F again and will allocate its share of the costs, that you proceed with the authorization for the State's share."

The Governor added that his recommendation "should not be construed as a substitute for a second medical school in Minnesota. Several groups are studying the feasibility of a second medical school. And should such a school materialize, it is, nevertheless, a prerequisite that the Health Sciences Center at the University proceed with all dispatch."

Proposed expansion of the Health Sciences Center includes an increase in enrollment in health fields from the present 3,500 to more than 5,200 by 1973. Plans are for the graduating medical class to increase from 160 to 200 and the graduating dental class from 115 to 150, with corresponding increases in the training of nurses, pharmacists, and other health professionals. Emphasis in the training will be on the development of a "team approach" to medical problems.

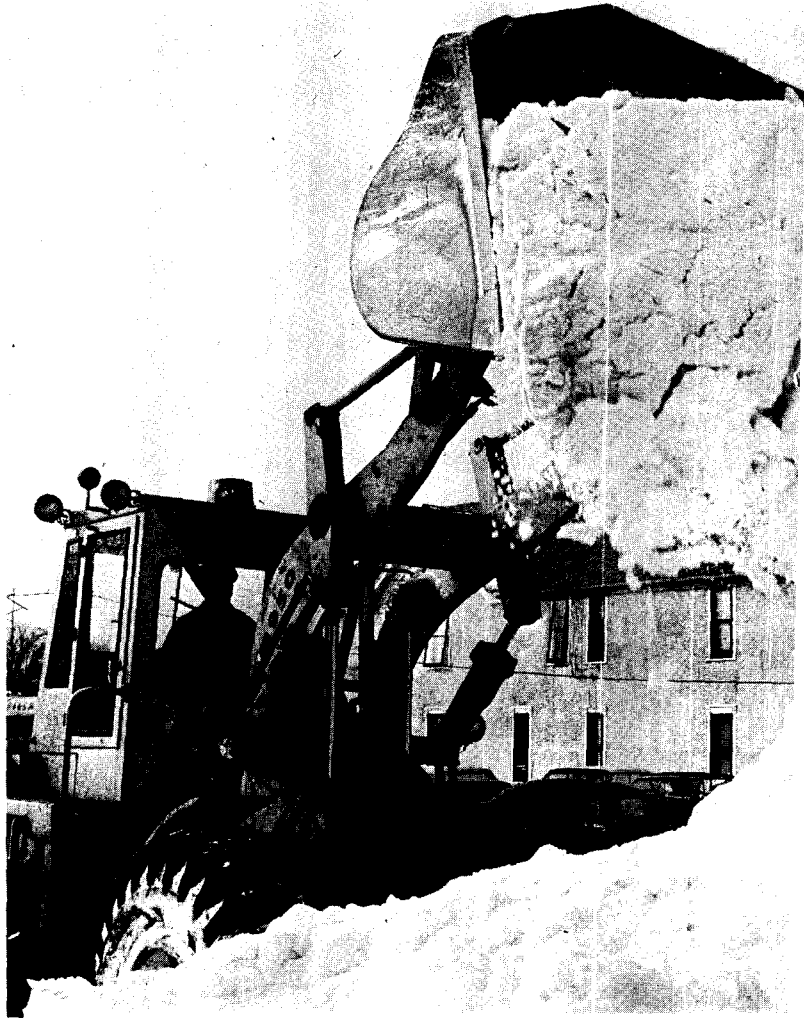


Governor Harold LeVander addresses Minnesota legislators.

# Custodial



*LEFT, George Smith operates an automatic scrubbing machine. LEFT BELOW, Bernard Norton (left) and Paul Coleman chip away snow near the West Bank bus stop. BELOW, Jennings Lanning in a Caterpillar 950 front-end loader moves snow to increase the parking space behind Clay School. RIGHT, Al Alfson changes a light in Walter Library.*



# and Grounds Crews Shovel, Sweep, Scrub



MORE THAN 480 tons of sand were spread on campus sidewalks and streets to fight the record snows between December 14 and February 1, Maintenance Supervisor Jerome Tauer reports.

During an ordinary winter, Tauer says, between 40 and 60 tons of sand are used. The 481.5 tons used this year are more than in any earlier winter during his 30 years at the University.

In addition to sand, the grounds crew spread 9.5 tons of calcium chloride and 5.25 tons of a commercial product for melting ice on steps and walks. Calcium chloride, more expensive than sodium chloride (salt), is used because it does not damage concrete.

Top priority in snow removal was given to sidewalks and streets. The University crew cleared all campus streets except Washington Avenue, University Avenue, and Fourth Street. Next priority went to steps leading into campus buildings and the pedestrian walkway of the Washington Avenue bridge. Parking lots came third.

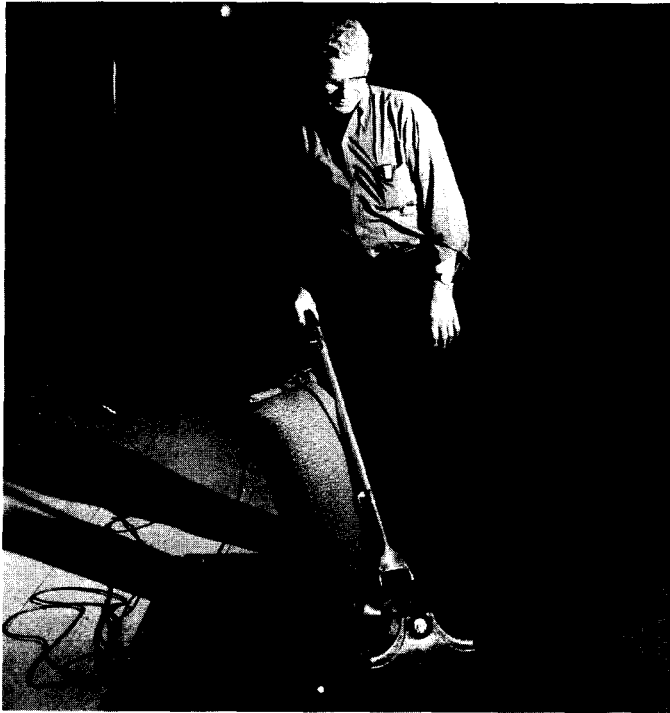
"This has been a bad year for keeping up," Custodial and Grounds Superintendent Joseph Leverone said in February. But, he added, "we feel we did better than anyone around us — and certainly no worse."

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The 45 University employees who work year-round on the grounds crew are now ready for spring planting and patch-up jobs.

Another 270 Department of Plant Services employees are building caretakers, who scrub floors, replace light bulbs, empty trash, and perform other custodial duties. Also on the custodial staff are 35 supervisors and about 20 students with "fractional" assignments.

All of these staff members work under the direction of Custodial and Grounds Superintendent Joseph Leverone. Eugene Heglund is principal custodial supervisor, and Jerome L. Tauer is in charge of grounds.



*ANDREW MACHELEDT vacuums a rug in Walter Library.*

A HARD WINTER for the grounds crew means heavy spring work as well — debris to be cleared away, scarred winter areas to be patched with new sod, damaged shrubbery to be replaced. But Tauer said in February that spring repair work must be “curtailed heavily” this year for lack of funds. Winter expenses went over the seasonal allotment in the grounds division’s yearly budget.

Sidewalk sweeping is a job for spring and summer. In past years sweepers worked only in the small hours of the morning, but new vacuum equipment that does not raise dust makes sweeping possible at any time.

Fall is leaf removal season. Leaves are either collected with a vacuum-type machine or shredded with a leaf mulcher and spread over the ground.

Not all work of the grounds crew is dictated by season or climate. Hauling furniture is a job for any season.

“Casual laborers” — six to twelve a day — are brought in during the heaviest seasons. University students are employed part-time. Last winter students did most of the “hand” snow removal jobs — the shoveling and ice-picking.

As more and more buildings arise on the campus, the work of the grounds crew becomes increasingly difficult. The “sacrifice in maneuverability” means extra work, Leverone says. Although there is less lawn to mow, there are more shrubs and more small corners.

A five-man athletic grounds crew under Foreman Virgil Dwinell takes care of Memorial Stadium, Bierman Field, and the practice fields. During the winter sports season the men work in Williams Arena, maintaining the basketball court and hockey rink and cleaning up after games. In the fall casual laborers — sometimes up to 30 — are brought in to clean Memorial Stadium after football games.

CUSTODIANS from the Plant Services staff work in all

buildings on the Twin Cities Campus except University Hospitals, Coffman Memorial Union, the St. Paul Student Center, and the residence halls.

Hours after the last Evening Class students and professors have gone home, the “deep night” shift of custodians prepares campus buildings for the next day’s classes and activities. About half of the 270 building caretakers work the deep night shift, from 10 p.m. to 6:30 a.m. Most of the others work the interim shift, from 4 p.m. to 12:30 a.m. Leverone says that before long the bulk of the custodial operation will be deep nights.

Because of crowded conditions on campus, only about 30 building caretakers work the day shift. They usually have assigned duties in more than one building, and are on call for emergencies.

The nature of a building’s occupancy and use determines whether a caretaker is assigned to it during the day. In a general classroom building a light bulb that goes out can be replaced by the night shift. But in Morrill Hall, with its busy administrative offices, a caretaker is ready to give immediate attention to any maintenance problem. Similarly, buildings in the medical complex — Jackson Hall, Owre Hall, Millard Hall, and Lyon Laboratory — have regular custodial service during the day.

IN AN EMERGENCY, a custodian can be summoned quickly to any building. A “pagemaster” system is operated through the University’s central switchboard. All custodial supervisors carry instruments to pick up beep signals from the operator. As soon as a supervisor has



*HOWARD MONSERUD shovels sand onto a sidewalk along the Fourth Street side of Williams Arena.*

been signaled, he goes to the nearest phone to learn where help is needed.

St. Paul campus custodians have been working only day and interim shifts, but Leverone says that the growing campus population in St. Paul will make a deep night shift necessary “within a year or two.”

Stage Custodian Donald Ostertag and a crew of four





*JIM HINES digs a trench with a Ford back-hole and front-end loader.*

or five are responsible for the Northrop stage and house. (Regular custodians clean the lobby and the rest of the building.) The stage crew prepares the stage for convocations and concerts, sets up the Artists Course and Orchestra shells, and cleans the house after performances.

CUSTODIAL SERVICES at Coffman Memorial Union and the St. Paul Student Center are administered separately. Custodial Supervisor Claus Fransen at Coffman says that 23 regular staff members and 9 part-time student employees work 24 hours a day in staggered shifts. Three custodians under Custodial Supervisor Elmer Ruemke are responsible for the St. Paul Student Center. The West Bank Union is maintained by the Plant Services custodians assigned to Anderson Hall.

In the residence halls custodians report to the director of each hall or complex. A hall typically has one or two building caretakers for heavy work and a small group of maids who make beds and clean student rooms. Senior Residence Hall Director Dennis Weber says that strong competition for maids in the Twin Cities area makes recruiting difficult. As a result assignments in the residence halls are doubled up and "maids are overworked."

The labor market for custodial workers throughout the University is tight.

"We have trouble getting the people we need for existing positions, let alone new ones," Leverone says. The 270 building caretakers are 11 short of a full complement, but during the winter the force was short by as much as 30. A further manpower shortage resulted as Hong Kong flu and heavy snowfalls kept workers off duty.

## Student Mix

*(continued from page 3)*

ty member teaches one freshman-sophomore course, one 100-level course, and a graduate seminar, "you have to split him up three ways and try to make him into a statistic." Ratios have to "average out"; only four students might register for a course such as Japanese, but if the University is to offer a full program of studies some of these small classes are inevitable.

Although ratios cannot be translated into class size, it is obvious that if there are more faculty members the classes can be smaller. Dean Lofquist says that small classes are needed in advanced courses "that require thinking and judging and mentally manipulating knowledge." When students have already learned the basic knowledge, they need even more opportunity to discuss ideas with their professors and with each other.

Dean Lofquist cites a course he teaches, a course that "almost demands" class discussion but that has an enrollment of 125. "Getting down to 50 wouldn't help," he says; for class discussion the group should be no larger than 25.

Student-faculty ratios are relevant to more than the classroom experience. With the shift to more upper division and graduate courses will come more demands on a professor's out-of-classroom time. Dean Lofquist says that a student in an advanced course needs the opportunity to talk personally with his professor, to discuss ideas that could not be covered in class. Term papers and special projects, essential to effective education in most advanced classes, are even more demanding of a faculty member's time.

What happens when the University does not get the additional faculty members it needs? Vice President Smith lists several results. Classes designed for discussion grow beyond the point where discussion is possible. Students encounter scheduling problems because too few sections of a course are available. Faculty members "become irritable because they feel overburdened by advising loads and by the fact that they aren't giving as much attention to individuals as they might wish to." And "opportunities for innovation tend to dry up," because "nearly all innovations are based on the hope that you have some surplus energy in the faculty constantly exploring new possibilities."

### The Statewide Picture

University administrators welcome the shift toward more upper division and graduate courses. But Vice President Shepherd says that any discussion of advantages and disadvantages must be placed in the context of the needs of the whole metropolitan area and the whole state.

With junior colleges in all areas of Minnesota, he says, a student can test his ability before committing himself to a more expensive and demanding University education. "Geographically dispersed junior colleges offer economies for students and parents and allow the University to develop a balanced student population appropriate to its mission."

# Woodrow Wilson Fellows on Faculty

A recent publication of the Woodrow Wilson National Fellowship Foundation lists 31 Woodrow Wilson Fellows holding academic appointments at the University of Minnesota.

Compiled from information received during the summer of 1968, the list also includes 34 Fellows holding appointments at other public and private colleges and universities in Minnesota.

Woodrow Wilson Fellowships are awarded to college seniors who are selected as the best future college teachers in the United States and Canada. Nine University students were chosen as Woodrow Wilson Designates this year.

The Directory of Woodrow Wilson Fellows lists 4,634 Fellows who hold faculty or administrative appointments for the academic year 1968-1969. In some cases where no current information was received, the Fellows were listed at the institutions where they held appointments in 1967-1968.

Listed from the University of Minnesota were the following: Assistant Professor William M. Ammentorp, Education; Assistant Professor Thoms R. Berger, Mathematics; Assistant Professor Jonathan P. Brezin, Mathematics.

Assistant Professor S. Marc Cohen, Philosophy; Associate Professor Edward M. Foster, Economics; Instructor Daniel S. Goode, Music; Instructor Glenn A. Hamm, German; Associate Professor John C. Hause, Economics.

Associate Professor John P. Hill, Psychology; Assistant Professor Larry G. Hutchinson, Linguistics; Assistant Professor Alfred H. Jones, History; Assistant Professor Robert E. Kennedy, Jr., Sociology.

Assistant Professor Robert C. Kiste, Anthropology; Assistant Professor Sheilah Rosenhack Koeppen, Political Science; Assistant Professor George J. Koury, Middle East Studies; Administrative Assistant Michael C. Mann, History.

Associate Professor Byron K. Marshall, History; Associate Professor Toni A. McNaron, English; Professor Frank C. Miller, Anthropology; Associate Professor Willard Miller, Jr., Mathematics; Instructor Francis L. Nye, English.

Instructor Frederick L. Schepman, American Studies; Associate Professor R. Joseph Schork, Classics; Research Associate George A. Sellers, Geology; Assistant Professor James A. Simpson, Jr., Scandinavian Languages.

Assistant Professor Robert C. Sine, Mathematics; Assistant Professor James D. Tracy, History; and Visiting Assistant Professor Thomas E. Vadney, History.

Woodrow Wilson Fellows on the faculty of the University of Minnesota-Duluth are Instructor Donald W. Larmonth, Linguistics and Lecturer Karlton Skindrud, Psychology. Assistant Professor of English Fred E. H. Schroeder is listed both as a Fellow and as the Campus Representative.

Twin Cities Campus Representative is Professor E. W. McDiarmid. Listed as present or former members of regional selection committees are Associate Professor of History Hyman Berman, Professor of English John D. Hurrell, Professor of English Samuel H. Monk, Professor of English Franz J. Montgomery, Associate Professor of Psychology Forrest L. Vance; and Professor of History John B. Wolf. Professors Vance and Wolf are no longer members of the University of Minnesota faculty.

An introduction to the Directory says that the campus representatives and members of selection committees "because of their participation in recruiting and selection of candidates, share with the Fellows a commitment to quality in education."

The nine University of Minnesota students named Woodrow Wilson Designates this year are James A. Berman, American History; Lynn M. Ellingson, History; Thomas B. Haberkorn, Linguistics; Thomas R. Hanson, International Relations and European History; Norma M. Jungreis, Chinese Studies; Vincent J. Liesenfeld, English Literature; Bruce D. Rigelman, Political Science; Marc D. Silberman, German; and Michael J. Somers, Political Science.

## Recent Staff Publications

Dr. W. Keith Bryant, Associate Professor of Agricultural Economics, coauthor, *People of Rural America*, U. S. Government Printing Office.

Dr. John P. Hill, Associate Professor of Child Psychology, *Minnesota Symposia on Child Psychology*, Volume 2, University of Minnesota Press.

Dr. Robert T. Holt, Professor of Political Science, and Dr. John E. Turner, Professor of Political Science, coauthors, *Political Parties in Action; the Battle of Barons Court*, The Free Press.

Dr. James P. Houck, Associate Professor of Agricultural Economics, coauthor, *Tropical Agribusiness Structures and Adjustments — Bananas*, Graduate School of Business, Harvard University.

Dr. Raymond J. Jackman, Professor of Proctology, Mayo Graduate School of Medicine, and Dr. Oliver H. Beahrs, Professor of Surgery, Mayo Graduate School of Medicine, coauthors, *Tumors of the Large Bowel*, W. B. Saunders Company.

Dr. Johannes Riedel, Professor of Music, *Music of the Romantic Period*, William C. Brown.

Dr. Edward C. Stafne, Professor Emeritus of Dentistry, Mayo Graduate School of Medicine, *Oral Roentgenographic Diagnosis*, Third Edition, W. B. Saunders Company.

# University of Minnesota Calendar

## April 1-15, 1969

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium; 8:30 p.m.

**Friday, April 4** — "Resurrection Symphony" by Mahler; Choruses of College of St. Catherine and College of St. Thomas (Tickets \$3.00-\$4.75)

**Friday, April 11** — Mstislav Rostropovich, Cellist (Tickets \$3.25-\$5.75)

#### Thursday Concert Series

Northrop Auditorium; 8:00 p.m.

**Thursday, April 10** — Mstislav Rostropovich, Cellist (Tickets \$3.25-\$5.75)

### University Artists Course

Northrop Auditorium; reservations may be made at 105 Northrop Auditorium, and tickets are available at all Dayton's stores on Monday of the week prior to performance

#### Masterpiece Series

Northrop Auditorium; 8:30 p.m.

**Wednesday, April 9** — Richard Tucker, Metropolitan Opera Tenor (Tickets \$2.00-\$5.00)

#### Celebrity Series

Northrop Auditorium; 8:30 p.m.

**Tuesday, April 15** — Houston Symphony; Andre Previn, Conductor (Tickets \$2.00-\$5.00)

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through Tuesday, April 15** — The Artist and the Factory

**Saturday, April 5, through Wednesday, April 16** — Paintings by Oyvind Fahlstrom

**Saturday, April 5, through Wednesday, April 16** — Painting to Music by Twin City School Children

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.

**Through Friday, April 4** — Nine Minnesota Photographers; Main Gallery

**Monday, April 7, through Sunday, April 20** — Paintings and Lithographs by Charles Bjorklund; West Gallery

#### St. Paul Student Center Galleries

St. Paul Student Center; Sunday through Saturday, 7:30 a.m.-11:00 p.m.

**Tuesday, April 1, through Sunday, April 27** — Oils and Graphics by Dorothy Hall; Second Floor Gallery

**Through Monday, April 14** — Photographs by John Dee; Rouser Room Gallery

### Music Department Program

Scott Hall Auditorium; 8:00 p.m.; admission

**Tuesday, April 1** — Phi Mu Alpha April Fool's Concert

### St. Paul Student Center Programs

#### Film

North Star Ballroom; 7:30 p.m.

**Friday, April 11** — "War and Peace" (Admission \$1.00)

#### Discussions

**Tuesdays, April 1, 8, and 15, 6:30 p.m.** — Investment Class; North Star Lounge

**Tuesday, April 15, 7:30 p.m.** — Fishing Instruction; Rooms 202, 204, and 206

### World Affairs Center Program

**Tuesday, April 1** — "The Soviet Union's Foreign Trade and Foreign Trade Policy" by Dr. Russell Adams; Normandy Village; 12:00 noon (Tickets \$4.50, includes luncheon)

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesday, 9:00 a.m.-9:00 p.m.); Sunday, 2:00-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge

**Daily during April** — Outstanding displays of Minnesota wildlife scenes

#### Sunday Afternoon Programs

Museum Auditorium; 2:30 and 3:30 p.m.; no charge

**Sunday, April 6** — "Discovery at Hell Creek"; film

**Sunday, April 13** — "Sand Country Wildlife"

#### Special Program

An adult program meeting biweekly on Wednesday evenings; title of the series, "Our Man-Handled Environment"; Museum Auditorium; 7:30 p.m.; no charge

**Wednesday, April 9** — "Genetic Control of Man's Future" by Dr. V. Elving Anderson

### Athletic Department Events

#### Home Baseball Games

Bierman Field; admission, adults \$1.25, children \$.50; tickets sold at gate only

**Friday, April 4, 1:00 p.m.** — Winona State College (2 games)

**Saturday, April 5, 1:00 p.m.** — Wisconsin State University, Stevens Point (2 games)

**Friday, April 11, 2:00 p.m.** — Mankato State College (2 games)

**Tuesday, April 15, 2:00 p.m.** — Augsburg College

### University Broadcasts

A service of the General Extension Division

**Radio** KUOM, 770 on the dial

**Monday, Wednesday, and Friday, 11:15 a.m.** — "American Government and Politics" with Professor Millard Gieske

**Monday through Friday, 12:00 noon** — "The Midday News," a 20 minute report of national and international news

**Monday through Friday, 12:30 p.m.** — "University Farm Hour," Leo Fehlhafer and Ray Wolf report market news and developments in the University's Institute of Agriculture.

**Monday through Friday, 3:00 p.m.** — "Fine Music," an hour and a half of classical music

**Monday through Friday, 4:30 p.m.** — "The Afternoon News," a half-hour report of national and international news

**Monday through Friday, 5:00 p.m.** — "The Music Hall," a program of fine music and news of campus/community events

#### University Television Hour KTCA-TV (Ch. 2)

**Mondays, 9:00-9:30 p.m.** — "After High School, What?" with Leonard Bart

**Mondays, 9:30-10:00 p.m.** — "Folio" with Richard Korhage

**Tuesdays, 9:00-10:00 p.m.** — "Pressure on the Kremlin Walls"

**Wednesdays, 9:00 - 10:00 p.m.** — "Our Man-Handled Environment" with Walter Breckenridge and Richard Barthel-emy

**Thursdays, 9:00-9:30 p.m.** — "Confrontation" with Forrest Harris and William Hathaway

**Thursdays, 9:30-10:00 p.m.** — "Town and Country" with Ray Wolf

**Fridays, 9:00-9:30 p.m.** — "The People," a series about the American Indian

**Fridays, 9:30-10:00 p.m.** — "Sock-It-To-'Em-ism" with Luther Gerlach

# University of Minnesota Calendar

## April 16-30, 1969

### Minnesota Orchestra

Stanislaw Skrowaczewski, Music Director; ticket office, 106 Northrop Auditorium

#### Imperial Series

Northrop Auditorium; 8:30 p.m.

**Friday, April 18 — "Missa Solemnis" by Beethoven (Tickets \$3.25-\$5.75)**

#### Sunday Concert Series

Northrop Auditorium; 4:00 p.m.

**Sunday, April 27 — Ravi Shankar, Sitarist (Tickets \$2.25-\$4.75)**

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through Wednesday, April 16 — Paintings by Oyvind Fahlstrom**

**Through Wednesday, April 16 — Painting to Music by Twin City School Children**

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.

**Through Sunday, April 20 — Paintings and Lithographs by Charles Bjorklund; West Gallery**

**Monday, April 21, through Friday, May 9 — Paintings by Steven Bigler; West Gallery**

#### St. Paul Student Center Galleries

St. Paul Student Center; Sunday through Saturday, 7:30 a.m.-11:00 p.m.

**Through Sunday, April 27 — Oils and Graphics by Dorothy Hall; Second Floor Gallery**

### University Theatre

#### Scott Hall Auditorium Series

Scott Hall Auditorium; Thursday and Sunday, 3:30 p.m.; Wednesday through Friday, 8:00 p.m.; Saturday, 7:00 and 10:00 p.m.; general admission \$2.00, students \$1.25

**Friday and Saturday, April 18 and 19, and Wednesday, April 23, through Sunday, April 27 — "Camino Real" by Tennessee Williams**

#### Undergraduate Series

Shevlin Hall Arena Theatre; Tuesday through Saturday, 8:00 p.m.; Friday and Sunday, 3:30 p.m.; general admission \$2.00, students \$1.25

**Tuesday and Wednesday, April 29 and 30, and Thursday, May 1, through Sunday, May 4 — "Jest, Satire, Irony, and Deeper Insignificance" by Christian Grabbe**

### Music Department Programs

Northrop Auditorium; no admission

**Wednesday, April 16, 8:30 p.m. — Concerto Concert by University Symphony**

**Sunday, April 20, 4:00 p.m. — Symphony Band Ensemble Concert**

### Convocation

Northrop Auditorium; 8:00 p.m.; no admission

**Wednesday, April 23 — "Capote Reads Capote"; Truman Capote, Author**

### St. Paul Student Center Programs

#### Films

North Star Ballroom; 7:30 p.m.

**Friday, April 18 — "Brothers Karamazov" (Admission \$1.00)**

**Friday, April 25 — "Rasputin and the Empress" (Admission \$.75)**

#### Sports Films

Rouser Room; 7:30 p.m.; free

**Wednesday, April 23 — "Water Skiing" and "Canoeing"**

#### Discussions

**Tuesdays, April 22 and 29, 7:30 p.m. — Fishing Instruction; Rooms 202, 204, and 206**

**Wednesday, April 16 — "Minnesota in 2000"; North Star Ballroom**

**Tuesday, April 29, 7:00 p.m. — Insurance; North Star Lounge**

### World Affairs Center Program

**Wednesday, April 16, through Saturday, April 19 — Minnesota-Dakotas Assembly on "Overcoming World Hunger"; Holiday Inn, Moorhead, Minnesota (Registration fee \$35.00)**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesday, 9:00 a.m.-9:00 p.m.); Sunday, 2:00 p.m.-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge

**Daily during April — Outstanding displays of Minnesota wildlife scenes**

#### Special Program

An adult program meeting biweekly on Wednesday evenings; title of the series, "Our Man-Handled Environment"; Museum Auditorium; 7:30 p.m.; no charge

**Wednesday, April 23 — "Summary and Challenge" by Rev. Paul H. Engstrom**

### Athletic Department Events

#### Home Baseball Games

Bierman Field; admission, adults \$1.25, children \$.50; tickets sold at gate only

**Friday, April 18, 2:00 p.m. — North Dakota University (2 games)**

**Saturday, April 19, 1:00 p.m. — North Dakota University (2 games)**

**Friday, April 25, 2:00 p.m. — Indiana University (2 games)**

**Saturday, April 26, 1:00 p.m. — Ohio State University (2 games)**

#### Home Golf Match

University Golf Course; no admission

**Saturday, April 26 — Varsity vs. Freshmen**

#### Home Tennis Matches

University Courts; no admission

**Friday, April 18, 3:00 p.m. — Carleton College**

**Saturday, April 19, 1:00 p.m. — University of Iowa**

#### Home Track Meet

Memorial Stadium; admission, adults \$1.25, children \$.50; tickets sold at gate only

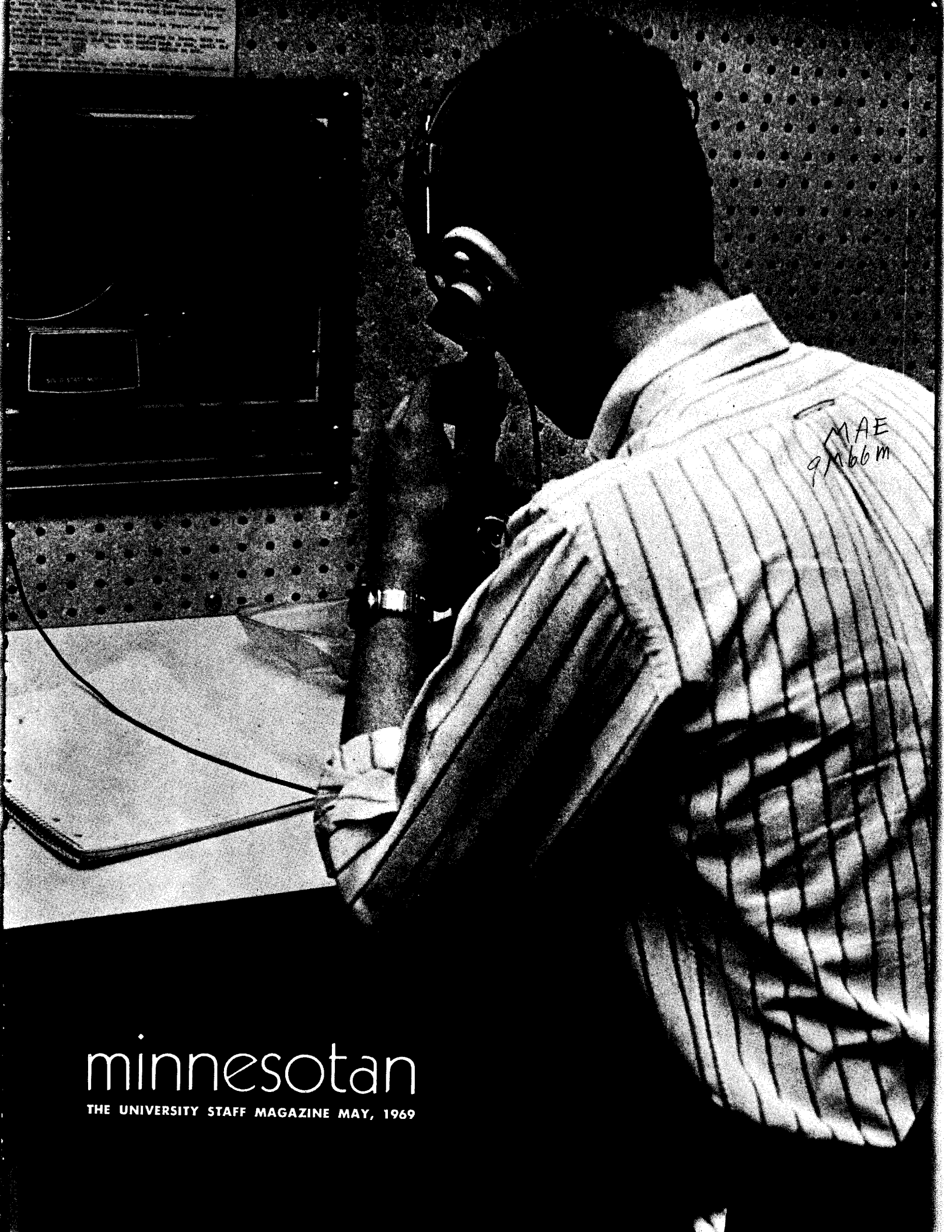
**Saturday, April 19, 1:00 p.m. — University of Wisconsin**

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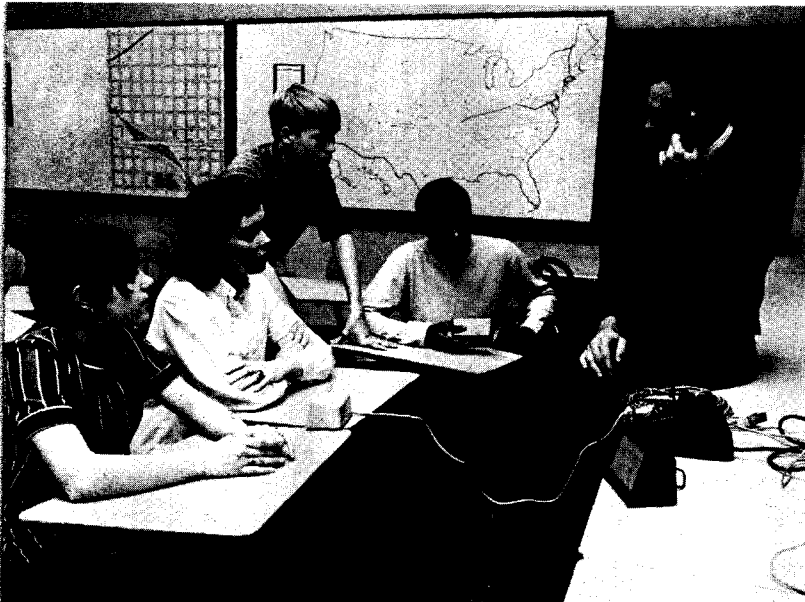
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THE UNIVERSITY STAFF MAGAZINE MAY, 1969

# What Makes Marshall-U

"Innovation" is the word at Marshall-University High School — innovation to meet the needs of students with different aptitudes, interests, backgrounds, experiences.

The school is "obliged to develop and try out new methods, new materials, new curricula," says Dr. Almon G. Hoye, director. Its "very existence . . . as a special school within a public school setting" means that it is "committed to the idea of experimentation, research, evaluation, and demonstration."

Marshall-U High, as most *Minnesotan* readers will recall, is the 1968 union of the former Marshall High School, of the Minneapolis Public School system, and University High, the private high school administered for many years by the College of Education. The two now make one institution in the big red brick school building at Fifth Street and Fourteenth Avenue S.E. in Dinkytown and Peik Hall on the University campus.



**LANGUAGE and Communication students join teacher Paul Beckstrand in a long-distance telephone call during a class meeting.**

The marriage has not had a totally placid honeymoon. The unified school brings together students who attended U High and Marshall last year, and black transfer students from north and south Minneapolis. (Marshall also provides special facilities for physically handicapped students from all parts of the city.) There were some vigorous disruptions in student relationships last fall and some students have found adjustment to the new methods difficult. Parents have not always been satisfied.

But, says Dr. Hoye, the purposes of the school to find new teaching methods, to learn ways to serve many dif-

ferent kinds of students according to their individual needs, are being served. "Generally favorable" responses to the changes in curriculum come from students, teachers, parents.

What are the "new" developments?

● Almost every department has adopted new teaching methods and uses new materials. But perhaps none has done so more "imaginatively" than the English department, under Roger Kemp, program coordinator. "There isn't any 10th, 11th, or 12th grade English any more," Hoye explains. "Students are required only to complete six of the 26 semester-long courses."

The courses' range is broad; many are sharply "contemporary." Their titles show their nature: Creative writing and evocative writing; literature of black people, of protest, of alienation, of the short story, of mythology. There are drama courses and opportunities for literary research and independent study.

A purpose is to "make English exciting and interesting by making it relevant," says Paul E. Beckstrand, an English instructor. The result is that students often elect to take more than the required minimum.

"Relevance" in Beckstrand's course in Language and Communication means that students write news stories and publish a daily newspaper, with an Associated Press teletype providing material. And they present newscasts from the Communications Center's small microphone-equipped studio.

● Current events students use the long-distance telephone to make appropriate calls to people anywhere in the United States on topics they have selected as significant. They have talked with their peers at Duluth East High School about student activism, and to Dr. Allan Moberg at University Hospitals about surgical transplants.

Students in a class called National-International Dialogue exchange tapes with schools in America and in England and Australia. And they use the tapes to study linguistic patterns.

● A program of elective courses like those in English is being developed in the Social Studies department, under James Olson. Professor Edith West of the College of Education is aiding in design of such courses as those in value conflicts, area studies, sociology, and economics.

● "Children of preschool age learn the structure of their native languages without asking for the whys of grammar," says Donald C. Ryberg, modern languages program coordinator. They learn by practical experience, not rules. Ryberg expresses the hope that within two years the four Minneapolis public elementary schools that send students to Marshall-U High will begin teaching languages in the 4th grade.

The high school has six-year programs now (students may take a foreign language from 7th grade through 12th) and is developing nine-year programs, beginning in the 4th. Four-year sequences will serve students who take two foreign languages as well as transfers into Marshall-U

*Maureen Smith, Editor*

*Joan Friedman, Associate Editor*

#### ADVISORY GROUP

*William L. Nunn, Director | Mitchell V. Charnley, Acting Associate Director | William T. Harris, Jr., Assistant Director | Advisory Committee: Members of the University Public Information Council. THE MINNESOTAN is published monthly October through May with the exception of January by the Department of University Relations, 220 Morrill Hall, University of Minnesota, Minneapolis, Minnesota 55455. Subscription-free copies mailed to full-time staff members. Non-staff member subscription rate: \$2.00 per year, \$1.30 per copy. Copies of each issue on sale at Coffman Memorial Union Bookstore. Second class postage paid at Minneapolis, Minnesota.*

ON THE COVER a student listens to taped instructions while looking through a microscope. He works in an individual booth that is part of a General Biology "multimedia lab."

minnesotan

Vol. 19 No. 7

# High "Different"?

High from schools outside the district. The longer programs will teach language "in depth," developing listening, speaking, reading, and writing skills. (These programs help college-bound students to meet expanded foreign-language requirements of the College of Liberal Arts.)

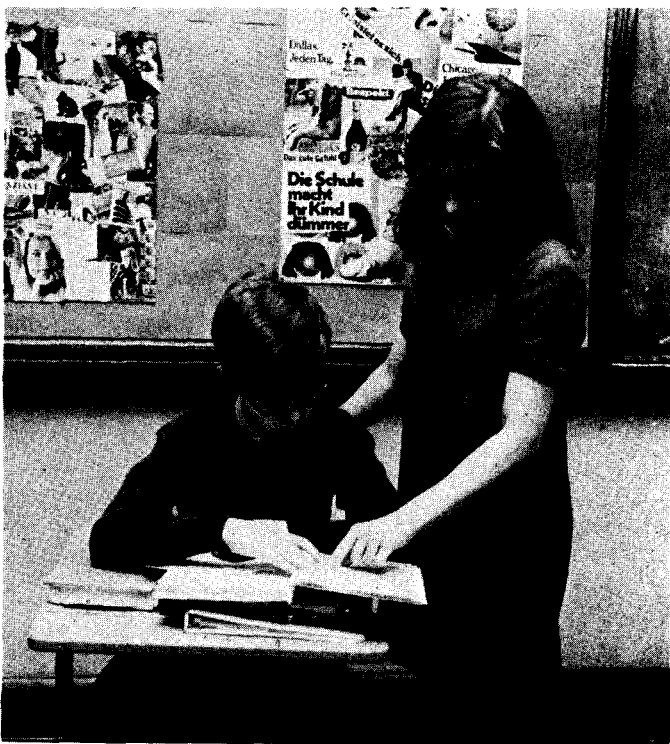
Students begin their foreign language — French, German, Spanish, Russian, or Chinese — by listening, speaking, and engaging in conversation; they "hear culturally authentic language such as native speakers of a language would use," Ryberg says. Advanced courses aid students to refine their use of a language and increase their vocabulary.

Audio-visual aids include films and filmstrips, as well as tapes, on some of which students hear their own recorded voices.

To present language as a facet of a culture, advanced electives will deal with cultural aspects of a country in its native tongue. Such subjects might include history, art, music, architecture, economics, folklore, religions, myths, films, television, and radio. This program is to be initiated next year by inclusion of some of these topics within the regular sequences. It will require extensive use of the Foreign Language Resource Center for independent study.

"A foreign language is useful for all students, not just the college-bound," says Ryberg. Jermaine Arendt, modern language consultant for the Minneapolis School Board and a member of the Joint Policy Board of Marshall-U High, is now in Europe studying foreign language teaching in vocational schools.

In a related program, Shirley Krogmeier directs a Ger-



MARGARET LYON, a University junior majoring in German, gives individual attention to a student needing help.



SEVENTH and eighth graders listen attentively as math teacher John Walther explains how the computer works. Program Coordinator Randall Johnson watches.

man course for 7th graders considered "academic and disciplinary problems." They are team-taught by German, music, and art teachers, both to maintain their interest through individual attention and to relate the language to German culture. The program is designed so that "every student can succeed at every step," says Ryberg. Students who have not done well in academic areas before are enthusiastic about their achievements.

● Individualizing programs to meet student needs and abilities is also an objective for the science department. The orientation of the department is toward student activity, says Eugene Gennaro, program coordinator. Courses are designed to accent sensory experiences and activities for students. On three out of every five days students perform laboratory experiments and "enjoy the involvement of discovery."

Involvement is only one of the results of student experimentation. Another of equal importance is understanding that "answers are not as important as the process of getting answers," says Gennaro.

Marshall-U High 7th and 8th graders take science for a full year instead of the usual half year. This permits them to begin biology in the 9th instead of the 10th grade and frees 12th graders for an advanced course.

In the one advanced course this year, students study behavior, some aspects of human psychology, molecular biology, and genetics, and do field work in ecology.

Courses in earth and space science, human biology, and outdoor biology have been initiated with no prerequisites "for those who probably would not take any high school science or who are not as academically oriented as those in the biology-chemistry-physics sequence," says Gennaro.

To show that science is not an isolated study, Gennaro hopes to move into team-teaching and interdisciplinary studies. After geology students have studied rocks, he says, an art teacher could show them how to polish them and make jewelry.

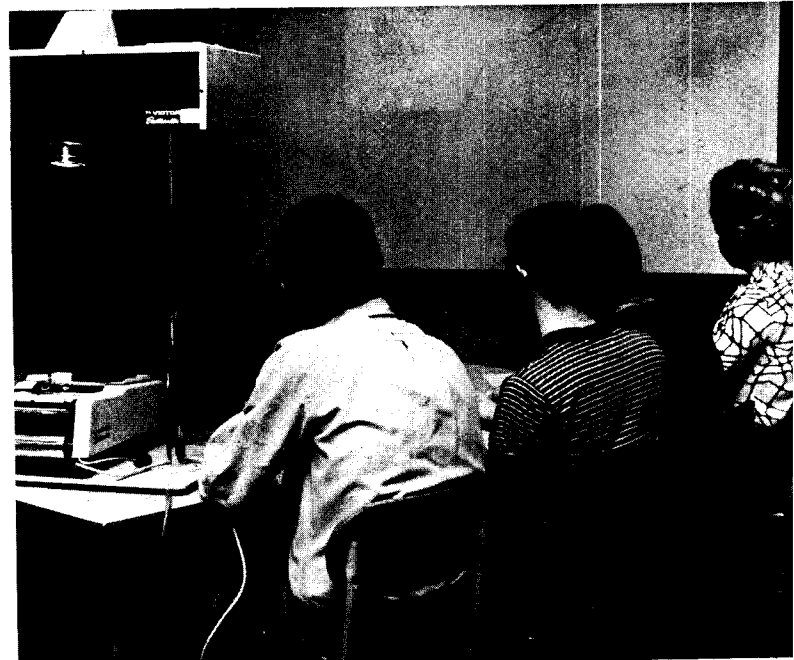
Plans call for a 12th grade science class to be team-taught with the Social Studies department. The class, Science and Culture, might take a humanistic approach to science, with students applying scientific knowledge to such social problems as pollution and overpopulation.

(continued on page 9)



Photograph by Volante

**TELEPHONES** bring guests to the classroom and take University teachers to students miles away. **ABOVE**, a student in Social Studies 41A talks to segregationist editor Roy Harris in Georgia. **LEFT BELOW**, Harold Alford uses the electrowriter to illustrate a point in grammar. **RIGHT BELOW**, the sentence diagram that has been transmitted by telephone is projected on a screen.





# Media Explosion in the Classroom

"Five years ago we were missionaries, we were salesmen," says Wes Grabow of the Audio-Visual Education Service (AVES). "In 1969 faculty members come to us."

Pressures both of student numbers and of proliferating information have led University teachers to search out new ways to present their material effectively and efficiently.

The educational resources they are turning to include not only traditional audio-visual materials like films and tapes but also telephones and computers. Grabow reports research that shows the educational advantages of exposing students to material through several of their senses and with a variety of media.

"Not everyone can be a master storyteller," he says. A few teachers — but very few — can lecture for hours and hold students in rapt attention. For the others, supplementary resources wisely used can stimulate and hold student interest.

Grabow adds that every teacher — including the star lecturer — has other important things to do than merely to present simple factual information. If students can learn routine information through programmed self-instruction or a film presentation, the teacher gains time to elaborate, illustrate, interpret, evaluate.

Productive use of educational resources, however, may mean "more work for the teacher, not less" — previewing and selecting material, preparing questions, responding to student reactions. The best audio-visual materials can be wasted if they are not integrated into courses, Grabow says.

In-service seminars on the use of audio-visual aids are offered at AVES, and advisers are available to consult with any faculty member about materials, equipment, or techniques. AVES also acts as a clearinghouse of information about new uses of educational resources on the campus.

Teachers who have time for more thorough help may sit in on a course taught by Associate Professor Neville Pearson in the College of Education.

Educators who in the past have merely "paid their respects" to audio-visual and other educational resources, Grabow says, are using them, often in innovative ways:

- Biology students in a "multimedia lab" work in individual booths and learn through four of their senses — hearing, sight, touch, and smell.

- A class on "Man in Society" talks by long-distance telephone to a segregationist editor in Georgia, the black partner in an interracial marriage, and two tour leaders who took a group of Harlem youngsters to Africa.

- A short course on the care and feeding of horses is taught in seven locations at once. The professor, in the KUOM studio in St. Paul, talks by telephone to students from Fergus Falls to Luverne.

- Written mathematical formulas are transmitted by telephone from Nolte Center to a class in Windom.

- Taped diagnostic microbiology lectures solve a scheduling problem for medical technology students and

assure them of hearing material in proper sequence.

- A computer goes to work on the question, "What does a student know when we say he knows something?"

## Multimedia Laboratory

Individualized instruction is possible in a General Biology laboratory that Associate Professor Douglas Dearden calls a "multimedia lab."

A tape recorder with ear phones and a microscope are at each of 20 booths. If a student fails to understand any part of a taped explanation, he pushes a button for a repetition. Dearden says this allows students to learn at their own rate without embarrassment.

Films and slide presentations are also being developed for use in the lab. Dearden says the idea is to "hit the students with a variety of attacks." Looking at a specimen in the microscope may be meaningful for one student; watching an attractive color film or examining a model may "make it click" for another.

Students never listen to a tape for more than five minutes before they are given a break or instructed to move to a demonstration table in another part of the room. A variety of instrumental music, including rock 'n' roll, is played during the breaks.

The lab, in Folwell Hall, is open during all daytime class hours, plus Wednesday evenings. A student may come in whenever a booth is free; he may take more than the usual two hours if he needs it, less if he finishes quickly, or break up his work into several sessions. A teaching assistant is always available for questions and discussion.

A mark of the lab's success is that fewer students have failed the course in the two quarters the lab has been operating.

## Dial-logue in the Classroom

The January 7 issue of *Look* — on "The Blacks and the Whites: Can We Bridge the Gap?" — was a springboard for long-distance telephone conversations in the General College course on "Man in Society." David Wold and Fred A. Johnson, teaching paired sections of the course, each used a phone in one section and taught a control section without it.

Students talked first to *Look* coeditors Patricia Coffin and George Goodman, who discussed the magazine's articles and helped to arrange for the class to call some of the writers and their interviewees. The conversation with Roy Harris, a segregationist editor from Augusta, Ga., was one of the liveliest. Of the 27 students in class that day, 18 directed questions or comments to Harris.

Besides encountering a variety of views on racial issues, Wold says, the students heard several people complain that their positions had been distorted in *Look*.

When a scheduled participant turned out to be unavailable one day, a student in Wold's class suggested a substitute — his father, the only black member of the city council of Raleigh, N.C. Another day the class talked with a Black Panther leader in San Francisco.

Talking on the phone gets students personally in-

volved, Wold says, and yet is impersonal enough that they are uninhibited.

"Seed money" for the telephone use came from the Center for Curriculum Studies. For the equipment — and the idea — Wold credits Amos Rosenbloom and John Warder, founders of the nonprofit corporation "dialogue."

### Teleteaching

By long-distance telephone a teacher can reach students in far corners of Minnesota without leaving his desk.

Amplifiers at both ends of the line pick up the normal speaking voice of anyone in either room. Teachers get instantaneous feedback from their students miles away. Director Harold J. Alford of the General Extension Division's Department of Independent Study says that such discussions are often livelier than when instructor and students are in the same room — partly because a voice on a telephone line is more insistent than a raised hand.

Teleteaching saves money. The \$16 an hour that an average telephone call costs is less than mileage costs to a town 100 miles away. It saves instructors' time — the commodity that is in "shortest supply," Alford says. And it "allows the University to reach more Minnesotans than any other method could," says Cortlandt Frye, the Department's coordinator of instructional services.

The "horse course" taught in April by Professor Robert M. Jordan of animal science reached more than 1,600 students in seven locations. Professor Jordan traveled to each of the towns for an introductory session and then conducted three simultaneous meetings by telephone. Pictures were included with the syllabus, and slides were sent ahead.

Last year Jordan taught the course to students in four locations with no travel. A large picture of him in a Western hat was displayed at each session.

### The Electrowriter

An additional device in some telephone courses is the "electrowriter" that Associate Professor David L. Giese used when he taught a long-distance course in mathematics to a group in Windom last winter.

It works this way: the teacher, in Nolte Center, writes with a metal-point pen on paper over a sensitized plate, and the contact creates an electrical impulse that is transmitted by telephone.

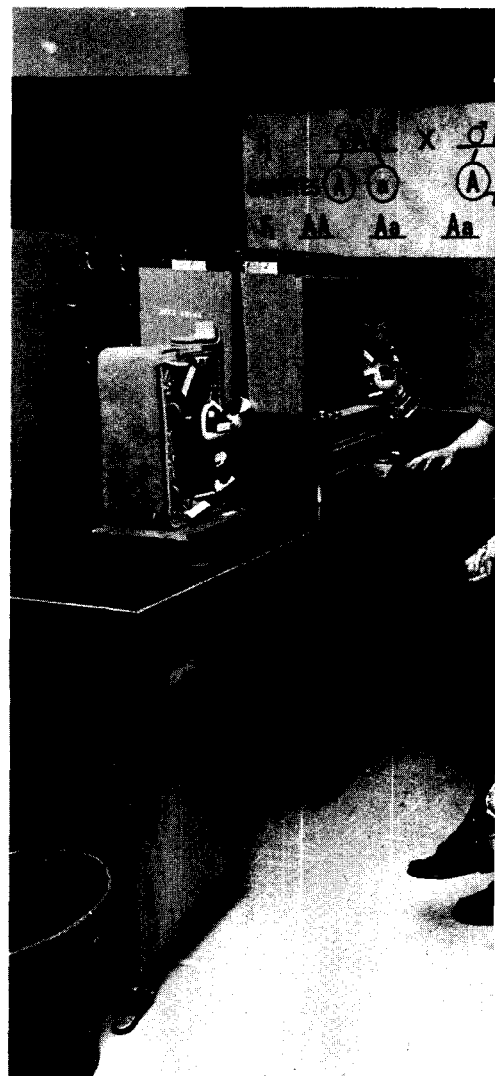
On the other end, a stylus duplicates the movement and writes on a transparency. An overhead projector and screen allow students to watch as "the moving hand writes." If precision is important, a diagram prepared in advance can be traced.

Because the University has only one receiver, electrowriter courses can be taught in only one town at a time.

### Taped Microbiology Lectures

Tape recorded lectures have helped solve a problem for fourth-year medical technology students. Their laboratories are small and their assignments follow a rotation pattern — a fact that means they don't always get lectures coincident with their clinical work.

Two small recorders with accompanying slide projectors conquered this difficulty in the diagnostic microbiology lab. Assistant Professor Donna Blazevic has recorded six basic lectures so that a student can listen



to each one when she is ready. Associate Professor Grace Mary Ederer says that use of tapes and slides has other advantages: a busy medical technology student can choose a convenient hour to hear a lecture, and the tape can be interrupted while she takes notes or can be repeated if anything is unclear.

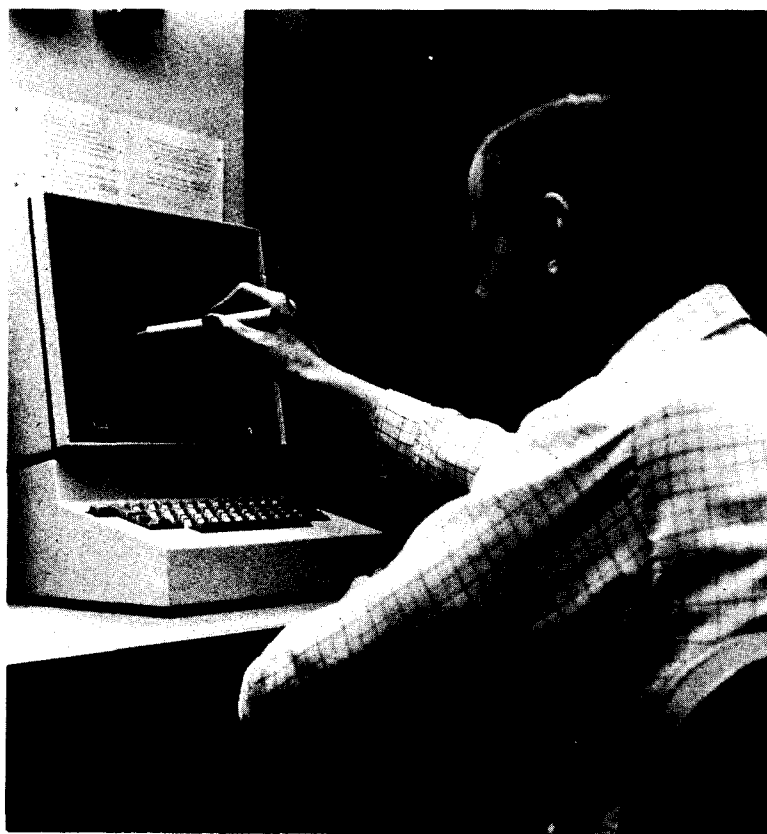
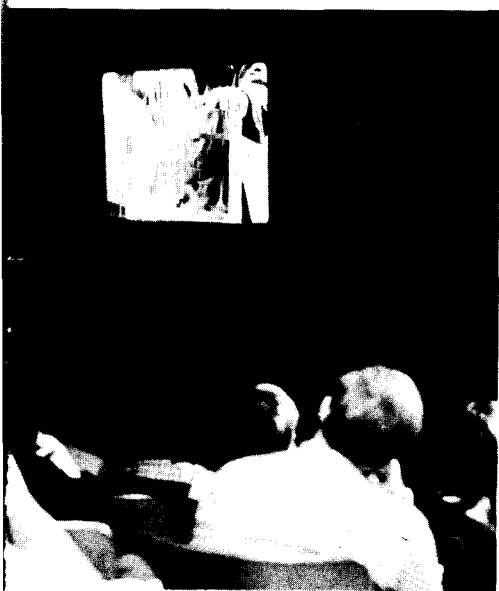
### Computer-Assisted Instruction

Powerful computers as instructional resources are not yet available on a wide scale, but research is being conducted at the Center for Programmed Learning.

Russell Burris, director of the Center, says that the question "What does a student know when we say he knows something?" requires complicated study. The computer helps researchers describe what happens when a student learns to solve problems, make judgments and decisions, and manipulate information.

The machine monitors every move a student makes and shows where he stumbles. Problems are shown on a screen and are not limited to those that can be expressed verbally or mathematically: the computer can be programmed to produce diagrams, and photographs can be projected on an adjacent screen.

Whether or not large groups of students are ever taught by computer, the computer-assisted discoveries about the process of learning will have implications for classroom teaching.



*LEFT ABOVE, students in a General College biology class watch a film in the "multimedia lab." LEFT BELOW, the biology students watch a classroom movie on osmosis. ABOVE, a student learns at a computer about the center of gravity of a tractor.*

# Twin Cities Teachers Like Where They Live

Most Twin Cities faculty members like the homes in which they live, and they like their neighborhoods.

Nevertheless, more than three fourths of the almost 1,500 who answered a questionnaire last year say that "there is a real need for the University to assist in satisfying faculty housing needs."

And nine out of ten think housing environment significant in recruiting and retaining faculty and staff.

These are among the findings of a survey conducted last spring by the Long-Range Planning Committee on Student-Staff Housing and Related Space Needs.

The largest single group — but only 17 percent — live in the University neighborhood of southeast Minneapolis. Another 14 percent live in the section of St. Paul that includes "University Grove," St. Anthony Park, and the Como area, and 12 percent live in Lauderdale, Falcon Heights, and Roseville.

Most of the others are scattered throughout the Twin Cities and suburban areas.

About two thirds (66 percent) of the faculty members own their own homes. The largest percentage (39 percent) of these homes are valued by their owners at between \$25,000 and \$34,999. Another 23 percent are valued between \$20,000 and \$24,999, and 22 percent over \$35,000. The median is about \$27,000.



MARCH 25 was "Evelyn Nelson Day" in Morrill Hall. Miss Nelson, supervisor of filing in the Business Office, began working for the University forty years earlier — on March 25, 1929. She worked in the Purchasing Department until August, 1938, when she joined the Business Office staff. On her fortieth anniversary, 72 friends and co-workers honored her at a luncheon.

Mrs. Mary Louise Dudding, a research associate in the Planning Office who is studying the survey results, says that these personal evaluations must be "interpreted with caution." She believes many of the estimates are higher than the true value of the homes.

Of 507 faculty renters, the largest percentage (26 percent) pay between \$120 and \$139. Another 20 percent pay between \$140 and \$159. Monthly rents between \$100 and \$119 are paid by 12 percent, and rents between \$160 and \$170 by 11 percent.

About two thirds (65 percent) of these rented units are unfurnished except for stove and refrigerator. About one third (34 percent) of the renters live in walk-up apartment buildings, 20 percent in duplexes, and 18 percent in single-family detached houses.

Both homeowners and renters were asked "How satisfied are you with your present residence?" "Very satisfied" was the response of 56 percent, and "somewhat satisfied" the response of 32 percent.

When the same question was asked about "your present neighborhood," similar responses were given. The "very satisfied" percentage was slightly higher (58 percent).

Only 2 percent answered "very dissatisfied" to either question.

Faculty members living in southeast Minneapolis were least likely to say they were "very satisfied" with their neighborhood (42 percent), but another 42 percent answered "somewhat satisfied."

"Physical characteristics of the neighborhood" were cited by 62 percent of the faculty members as one of the three most important reasons for the choice of their present location. Fifty-nine percent cited "availability of house or rental unit we liked at a price we could afford," 56 percent proximity to work, and 40 percent good public schools.

Almost nine out of ten faculty members evaluated housing environment as either "very significant" (33 percent) or "significant" (56 percent) in recruiting and retaining faculty and staff.

Those (77 percent) who saw a need for the University to assist in meeting housing needs were asked to choose three types of assistance that would be most valuable. Seventy percent chose "apartments or townhouses for rental to new or visiting faculty on a temporary basis," 60 percent chose "provision of low-interest rate loans," and 48 percent "University-owned townhouses for permanent housing."

Other choices were "additional 'University Groves'" (37 percent), "University-owned apartments for permanent housing" (34 percent), "University guarantees of conventional mortgages" (26 percent), and "University-owned retirement housing" (22 percent).

Faculty members not living in the University community were asked whether they would live there if suitable housing were available. Twenty-six percent responded "yes" and 39 percent "maybe."

The Long-Range Planning Committee is seeking ways to attract faculty members to the University community to live. A subcommittee report based on the survey results is now in preparation.

Questionnaires were sent last spring to 2,300 faculty members on the Twin Cities Campus.

# Marshall-U High

(continued from page 3)

● The purpose of the mathematics department is to provide "somewhere for the student to go, no matter what his prior experience in mathematics," says Randall Johnson, program coordinator. Whatever a student's abilities in mathematics, there is a program suited to his needs.

College-bound students who show math aptitude and who may pursue mathematically oriented careers complete the usual 9th grade algebra course in the 8th grade, to free themselves for advanced electives in the 12th grade.

As 12th graders, they may choose semester courses in computer applications, probability and statistics, or in the near future one of two courses taught cooperatively with University mathematics professors: Dr. Daniel Pedoe in independent studies, and Dr. Warren Stenberg in a computer-based calculus course.

What about the college-bound student who experiences difficulty in 9th grade algebra? The flexible program provides as an alternative to the rigorous 10th grade geometry course a course in "intuitive geometry." As the

For the student who is not college-bound and who has difficulty in mathematics, there is a 12th grade course emphasizing the practical applications of math to daily life.

No student is locked in a sequence. He may move among the courses as his ability and interest demand. Every student has the opportunity to follow a four-year mathematics program. The result is that more than 50 percent of the students in grades 10 through 12, college-bound or not, elect math.

● The flexible curriculum relies on "broad course offerings, fewer texts, and more resource materials," says Johnson. One of these resources is the computer.

Not only students in advanced computer applications courses use a computer, but 7th and 8th graders use it as well. "The computer helps the student learn some mathematical concepts," says Johnson. "This is not computer science — learning to manipulate the machine."

A Computer Assisted Mathematics Program (CAMP) has been developed by mathematics teachers at Marshall-U High to teach junior and senior high school students use of the computer to solve mathematical problems and to develop mathematical ideas. "CAMP is the first commercially published supplemental package for a math program with instruction in computers for grades 7 through 12," says Johnson.

In the Mathematics Resource Center, students do homework, get help from teachers, or play with such games as Racko, Stratego, Yahtzee, geometric puzzles, and strategy puzzles — games using mathematical concepts. Books and other research materials are available.

● The Home Economics department includes a course in creative clothing whose students design their own patterns, the Music department works with small groups and offers advanced music labs, and a business course deals with sales and marketing.

Flexibility is the key to developing curricula suited to student needs, according to Dr. Hoye. New courses take into account student interest, ability, and experience. Moreover, credit may be granted for "outside" learning experiences such as dancing with the Minnesota Dance Company, taking college classes or private music lessons, and independent studies. New methods include team-teaching, team student groups, and daily demand scheduling in which time is taken as needed to complete a project.

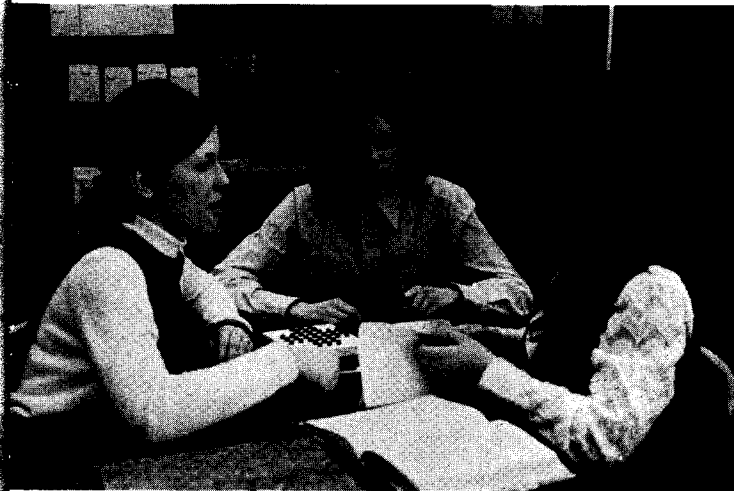
## Recent Staff Publications

Fred M. Amram and Frank T. Benson, Associate Professors in General College, *Creating A Speech*, Charles Scribners Sons.

Dr. James A. Bastron, Dr. R. G. Bickford, Dr. Joe R. Brown, Dr. E. C. Clark, Dr. Kendall B. Corbin, Dr. N. P. Goldstein, Dr. F. M. Howard, Jr., Dr. E. H. Lambert, Dr. Donald W. Klass, Dr. C. H. Millikan, Dr. Donald W. Mulder, Dr. E. D. Rooke, Dr. Joseph G. Rushton, Dr. Robert G. Siekert, Dr. Jurgen E. Thomas, and Dr. Jack P. Whisnant, Faculty in Neurology, Mayo Graduate School of Medicine, *L'Esame Clinico in Neurologia*, Piccin Editore, Padua, Italy.

Anwar G. Chejne, Chairman of the Department of Middle Eastern Languages, *The Arabic Language: Its Role in History*, University of Minnesota Press.

Clyde M. Christensen, Professor of Plant Pathology, *Common Edible Mushrooms*, University of Minnesota Press.



**DEAF STUDENTS** play with some of the games available in the Mathematics Resource Center.

course title suggests, the emphasis is on an intuitive treatment of concepts of math rather than rigorous proofs of theorems. If his interests and abilities develop, this student may take a course in algebraic systems, computer applications, or probability and statistics.

Math offerings reflect an attempt to eliminate courses that, by their very nature, are terminal. Even students with little mathematical ability are given an opportunity to move into a course where they have "at least an even chance for success," says Johnson.

Such students take basic classes in the 7th and 8th grades, and they may take a two-year pre-algebra sequence in the 9th and 10th grades. They take intuitive geometry and algebraic systems in junior and senior years.

Students who do well in the 9th grade course of the pre-algebra sequence may move into a regular algebra class, then into regular or intuitive geometry, followed by more algebra and trigonometry and possibly semester courses in probability and statistics or computer applications.

# 1968-1969 Promotions

The following list was compiled from records of Board of Regents meetings, through March:

Essam Awad, from Assistant Professor, Physical Medicine and Rehabilitation, to Associate Professor.

Heinz W. Berendes, from Assistant Professor, Pediatrics and School of Public Health, to Associate Professor.

Jonathan Bishop, from Assistant Professor, Medicine, to Associate Professor.

John R. Borchert, from Professor, Geography, to Professor and Director, Center for Urban and Regional Affairs.

H. Mead Cavert, from Professor and Associate Dean for Medical Student Affairs, College of Medical Sciences, to Professor and Associate Dean and Executive Officer of the Medical School.

Audrey Coulter, from Associate Director, Hospital Nutrition Service, University Hospitals, to Director.

Frank E. Di Gangi, from Professor, College of Pharmacy, to Assistant Dean for Student Affairs and Professor.

Otto E. Domian, from Professor, Educational Administration and Director of Surveys, Bureau of Field Studies and Surveys, to Associate Dean, Educational Administration and Professor, Bureau of Field Studies and Surveys.

Charles Fairhurst, from Professor and Acting Head, School of Mineral and Metallurgical Engineering, to Professor and Head.

Benjamin F. Fuller, from Associate Professor and Director, Division of Family Practice Medicine, to Professor and Head, Family Practice and Community Health.

Robert Fulton, from Professor, Sociology, to Professor and Associate Chairman.

John G. Geier, from Assistant Professor, School of Dentistry, and Speech, Communication, and Theatre Arts, to Associate Professor, School of Dentistry.

Joan Gordon, from Professor, School of Home Economics, to Professor and Chairman, Foods Division.

Stephen G. Granger, from Associate Professor and Assistant Dean, University of Minnesota, Morris, to Associate Professor and Assistant Provost.

Eugene Grim from Professor, Physiology, to Professor and Head.

Moy F. Gum, from Professor, Division of Education and Psychology, Duluth, to Professor and Director, Elementary School, Counseling and Guidance Clinic, Duluth.

Robert J. Gumnit, from Assistant Professor, Psychiatry and Neurology, to Associate Professor.

John J. Haglin, from Assistant Professor, Surgery, to Associate Professor.

Robert J. Heller, from Professor and Assistant to the Provost, Duluth, to Professor and Assistant Provost.

Wells Hively, II, from Associate Professor, Educational Psychology, Psychological Foundations and Center for Research in Human Learning, to Associate Professor and Chairman, Psychological Foundations and Associate Professor, Center for Research in Human Learning.

James F. Hogg, from Professor, Law School, to Professor and Assistant Vice President, Office of the Vice President for Academic Administration.

Richard Hong, from Associate Professor, Pediatrics, to Professor.

Alan B. Hooper, from Assistant Professor, Genetics and Cell Biology, to Associate Professor.

Andrew Hustrulid, from Professor, Agricultural Engineering, to Professor and Acting Head.

John Q. Imholte, from Associate Professor and Assistant Dean, University of Minnesota, Morris, to Associate Professor and Academic Dean.

Hugh F. Kabat, from Associate Professor, College of Pharmacy, to Associate Professor and Head, Clinical Pharmacy.

William J. Kane, from Assistant Professor, Surgery, to Associate Professor.

Stanley B. Kegler, from Professor and Associate Dean, Administration, College of Education, to Professor and Assistant Vice President, Office of Vice President for Educational Relationships and Development.

Ralph B. Kersten, from Clinical Assistant Professor, School of Dentistry, to Associate Professor.

Stephen A. Kieffer, from Assistant Professor, Radiology, to Associate Professor.

Gisela Konopka, from Professor and Coordinator, Office of Community Programs, to Special Assistant to the Vice President for Student Affairs.

Martin H. Lease, Jr., from Associate Professor, Division of Social Sciences, Duluth, to Associate Professor and Assistant Dean of the Graduate School for the Duluth Program.

F. Bruce Lewis, from Assistant Professor, Medicine, to Associate Professor.

James P. Lillehei, from Assistant Professor, Medicine, to Associate Professor.

Bernard W. Lindgren, from Associate Professor and Chairman, Statistics, to Professor and Chairman.

Jack C. Merwin, from Professor and Chairman of Psychological Foundations, Educational Psychology, to Assistant Dean, Administration, College of Education and Professor, Educational Psychology.

Gerhard Neubeck, from Professor and Assistant Director, Family Study Center, to Professor and Acting Director.

Walter T. Pattison, from Professor, Spanish and Portuguese, to Professor and Chairman.

Stephen Prager, from Professor, School of Chemistry, to Professor and Acting Chief, Physical Chemistry.

Richard B. Raile, from Associate Professor, Pediatrics and Administration, College of Medical Sciences, to Professor.

Armand A. Renaud, from Professor, French and Italian, to Professor and Chairman.

Louis E. Toth, from Associate Professor, School of Mineral and Metallurgical Engineering, to Associate Professor and Associate Head.

Walter S. Warpeha, from Clinical Assistant Professor, School of Dentistry, to Clinical Associate Professor.

James H. Wernitz, Jr., from Associate Professor, School of Physics and Astronomy, and Director, Center for Curriculum Studies, to Professor of Physics and Director, Center for Curriculum Studies.

Donald R. Zander, from Associate Professor and Director, University Student Unions, to Assistant to the Vice President for Student Affairs.

# University of Minnesota Calendar

## May 1-15, 1969

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through May — Prints by Bonnie Marvy Jones, Master of Fine Arts candidate**

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.

**Through Friday, May 9 — Paintings by Steve Bigler; West Gallery**

**Monday, May 12, through May — Painting and Prints by Ross Taylor; West Gallery**

**Monday, May 12, through May — Drawings and Paintings by Terry Murphy; South Gallery**

#### St. Paul Student Center Galleries

St. Paul Student Center; Sunday through Saturday, 7:30 a.m.-11:00 p.m.

**Thursday, May 1, through Wednesday, May 21 — Watercolors by Albert Rinebold; Rouser Room Gallery**

**Through Thursday, May 15 — Mixed Media by University Related Arts Department; Second Floor Gallery**

**Thursday, May 15, through Sunday, June 1 — Oils and Watercolors by Frank Oberg; Second Floor Gallery**

### University Theatre

#### Undergraduate Series

Shevlin Hall Arena Theatre; Tuesday through Saturday, 8:00 p.m.; Friday and Sunday, 3:30 p.m.; general admission \$2.00, students \$1.25

**Thursday, May 1, through Sunday, May 4 — "Jest, Satire, Irony, and Deeper Significance" by Christian Grabbe**

**Tuesday, May 13, through Sunday, May 18 — "Summertime" by Ron Cohen**

#### Young People's University Theatre

Scott Hall Auditorium; Saturday, 10:30 a.m. and 3:30 p.m.; Sunday, 3:30 p.m.; tickets \$1.00; special group rates

**Saturday, May 10, and Sunday, May 11 — "Treasure Island" adapted by Jules Eckert Goodman**

### Music Department

#### Programs

**Friday, May 2, 8:00 p.m. — University Women's Chorus; Northrop Auditorium**

**Sunday, May 4, 4:00 p.m. — Symphony Bands; Northrop Auditorium**

**Monday, May 5, 8:00 p.m. — Recital by Julia Blue, soprano, and Lenore Konigsberg, oboeist; Scott Hall Auditorium**

**Wednesday, May 7, 8:00 p.m. — String bass recital by Craig Johnson; Scott Hall Auditorium**

**Thursday, May 8, 8:00 p.m. — Sigma Alpha Iota American Music Concert; Scott Hall Auditorium**

**Friday, May 9, 8:30 p.m. — University Men's Glee Club; Northrop Auditorium**

**Sunday, May 11, 4:00 p.m. — All University Bands; Northrop Auditorium**

**Thursday, May 15, 8:00 p.m. — Violin recital by Nancy Muehr; Scott Hall Auditorium**

### St. Paul Student Center

#### Programs

##### Film

North Star Ballroom; 7:30 p.m.

**Friday, May 2 — "Zorba the Greek" (admission \$1.00)**

##### Discussion

North Star Lounge; 7:00 p.m.

#### Tuesday, May 6 — Insurance Class Special Program

Rouser Room; 12:00 noon

#### Tuesday, May 6 — Gab Session

### Convocations

Open to the public; no admission charge

**Thursday, May 1, 10:15 a.m. — "They Were the People" (Eskimo Survival), by George Swinton, University of Manitoba; North Star Ballroom**

**Tuesday, May 6, 12:15 p.m. — Roy Wilkins, Executive Director, NAACP; Northrop Auditorium**

**Monday, May 12 — "The New Political Coalition," by Julian Bond, member, Georgia House of Representatives; 10:15 a.m., North Star Ballroom; 3:00 p.m., Northrop Auditorium**

### World Affairs Center

#### Program

**Thursday, May 1, through Saturday, May 3 — "Military Factors in Foreign Policy"; three-day seminar; Lowell Inn, Stillwater**

### University Film Society

Museum of Natural History Auditorium; 7:30 and 9:30 p.m.; admission varies with film

**Friday, May 2 — "Million Dollar Legs" with W. C. Fields**

**Friday, May 9, and Saturday, May 10 — "The Wages of Fear" (1954)**

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesday, 9:00 a.m.-9:00 p.m.); Sunday, 2:00-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge

**Daily during May — Outstanding displays of Minnesota wildlife scenes**

### University Arboretum

Four miles west of Chanhassen on Highway 5; Monday through Friday, open to the public without charge; weekends and holidays, \$.50 per car

#### Spring Classes

Thursdays, 8:00 p.m.; single classes, \$1.00 for Arboretum members, \$2.00 for non-members

**Thursday, May 1 — "Tender Bulbs in the Garden" by Dr. Paul Reed**

**Thursday, May 8 — "A Vegetable Garden in a Small Area" by Dr. O. C. Turnquist**

**Thursday, May 15 — "Planting and Caring for a Wildflower Garden" by Dr. L. C. Snyder**

### Athletic Department Events

#### Home Baseball Games

Bierman Field; admission, adults \$1.25, children \$.50; tickets sold at gate only

**Saturday, May 3, 11:00 a.m. — Minnesota Frosh vs. St. Cloud State Junior Varsity**

**Friday, May 9, 2:00 p.m. — Purdue University (2 games)**

**Saturday, May 10, 1:00 p.m. — University of Illinois (2 games)**

#### Home Golf Meets

University Golf Course; open to the public without charge

**Thursday, May 8, 8:30 a.m. — University of North Dakota**

**Friday, May 9, 8:30 a.m. — University of North Dakota**

**Saturday, May 10, 8:30 a.m. — Minnesota Invitational Tourney**

#### Home Football Game

Memorial Stadium; adults \$2.00, children \$1.00; tickets sold at gate only

**Saturday, May 3, 1:30 p.m. — Spring Varsity Game**

#### Home Tennis Meets

University Courts; open to the public without charge

**Thursday, May 1, 2:00 p.m. — Michigan State University**

**Saturday, May 3, 1:00 p.m. — University of Michigan**

**Friday, May 9, 2:00 p.m. — Purdue University**

**Saturday, May 10, 1:00 p.m. — University of Illinois**

**Monday, May 12, 1:00 p.m. — Iowa State University**

#### Spring Sports Day

Advance ticket sale to May 2 in 108 Cooke Hall; admission for 4 events, adults \$1.00, children \$.50 (with student-staff athletic card, \$.50)

**Saturday, May 3, 11:00 a.m. — Baseball; Minnesota Frosh vs. St. Cloud State Junior Varsity**

**Saturday, May 3, 1:00 p.m. — Tennis; University of Michigan**

**Saturday, May 3, 1:30 p.m. — Football; Spring Varsity Game**

**Saturday, May 3, 4:00 p.m. — Track; Michigan State University**

### University Broadcasts

A service of the General Extension Division

Radio KUOM, 770 on the dial

**Monday through Friday, 12:00 noon — The Midday News**

**Monday through Friday, 4:30 p.m. — The Afternoon News with Robert Boyle and Russell Johnson**

**Monday through Thursday, May 12 through May 15, and May 19 through May 22, 7:00 p.m. — "Conversations at Esalen" with Connie Goldman**

**Wednesdays, 2:00 p.m. — "The Scope of the Human Potential," a series of lectures concerning awareness and human experience**

**Fridays, 2:00 p.m. — "Ayn Rand on Campus"; Miss Rand discusses her ideas with former University professor, John Hospers**

**Saturdays, 2:00 p.m. — "The Saturday Show," a variety of discussion and music features with Garrison Keillor and Connie Goldman**

**University Television Hour KTCA-TV (Ch. 2)**

**Mondays, 9:00-9:30 p.m. — "After High School, What?" with Leonard Bart**

**Tuesdays, 9:00-10:00 p.m. — "Pressure on the Kremlin Walls"**

**Wednesdays, 9:00-10:00 p.m. — "Our Man-Handled Environment" with Walter Breckenridge and Richard Barthelemy**

**Wednesdays, 9:00-9:30 p.m. — "The Camera and Eye" (begins May 21)**

**Thursdays, 9:00-9:30 p.m. — "Confrontation" with Forrest Harris and William Hathaway**

**Thursday, 9:30-10:00 p.m. — "Town and Country" with Ray Wolf**

**Fridays, 9:00-9:30 p.m. — "The People," a series about the American Indian**

**Fridays, 9:30-10:00 p.m. — "Sock-It-To-'Em-ism" with Luther Gerlach**

**Fridays, 9:30-10:00 p.m. — "Yard and Garden" with Leo Fehlhafer (begins May 16)**

# University of Minnesota Calendar

## May 16-31, 1969

### Metropolitan Opera

Northrop Auditorium; tickets \$5.00, \$8.50, \$11.00, \$13.00, and \$15.00; advance sale by mail order only, 106 Northrop Auditorium; counter sales open Monday, May 5, 106 Northrop Auditorium

**Monday, May 19, 8:00 p.m.** — "La Bohème" by Giacomo Puccini

**Tuesday, May 20, 8:00 p.m.** — "Faust" by Charles Francois Gounod

**Wednesday, May 21, 8:00 p.m.** — "Rigoletto" by Giuseppe Verdi

**Thursday, May 22, 8:00 p.m.** — "Der Rosenkavalier" by Richard Strauss

**Friday, May 23, 8:00 p.m.** — "Adriana Lecouvreur" by Francesco Cilea

**Saturday, May 24, 1:30 p.m.** — "Il Barbiere di Siviglia" by Gioacchino Antonio Rossini

**Saturday, May 24, 8:00 p.m.** — "Il Trovatore" by Giuseppe Verdi

### Art Exhibitions

#### University Gallery

Northrop Auditorium; Sunday, 2:00-5:00 p.m.; Monday through Friday, 8:30 a.m.-4:00 p.m.

**Through May** — Prints by Bonnie Marvy Jones, Master of Fine Arts candidate

#### Coffman Gallery

Coffman Memorial Union; Sunday, 1:00-8:00 p.m.; Monday through Saturday, 8:00 a.m.-8:00 p.m.

**Monday, May 12, through May** — Paintings and Prints by Ross Taylor; West Gallery

**Monday, May 12, through May** — Drawings and Paintings by Terry Murphy; South Gallery

#### St. Paul Student Center Galleries

St. Paul Student Center; Sunday through Saturday, 7:30 a.m.-11:00 p.m.

**Through Wednesday, May 21** — Watercolors by Albert Rinebold; Rouser Room Gallery

**Through Sunday, June 1** — Oils and Watercolors by Frank Oberg; Second Floor Gallery

**Friday, May 23, through Friday, June 20** — Oils and Watercolors by Gladys Wenker; Rouser Room Gallery

### University Theatre

#### Undergraduate Series

Shevlin Hall Arena Theatre; Friday and Saturday, 8:00 p.m.; Friday and Sunday, 3:30 p.m.; general admission \$2.00, students \$1.25

**Friday, May 16, through Sunday, May 18** — "Summertime" by Ron Cohen

#### University Showboat

Minneapolis Campus Landing; 8:00 p.m.; general admission \$2.60; tickets available at Scott Hall Box Office

**Saturday, May 24, and Monday, May 26, through Thursday, May 29** — "The Birds" by Aristophanes

### Music Department Programs

**Friday, May 16, 8:00 p.m.** — Opera Workshop; Wulling Hall Theatre (admission)  
**Saturday, May 17, 8:00 p.m.** — Opera Workshop; Wulling Hall Theatre (admission)

**Tuesday, May 27, 8:30 p.m.** — University Symphony Orchestra; Main Ballroom, Coffman Union

**Wednesday, May 28, 8:30 p.m.** — University Chorus and members of the Minnesota Orchestra; Northrop Auditorium

**Thursday, May 29, 8:00 p.m.** — Piano recital by Mary Kay Belanger; Scott Hall Auditorium

### St. Paul Student Center Programs

#### Special Programs

**Saturday, May 17, 1:00 p.m.** — Minnesota Royal Canoe Derby; Lake Como

**Wednesday, May 28, 5:00 p.m.** — Steak Fry; Student Center Terrace

**Wednesday, May 28, 7:00 p.m.** — Hoote-nanny; North Star Ballroom

#### Films

Rouser Room; 7:30 p.m.; no admission

**Wednesday, May 21** — Sports Films

**Wednesday, May 28** — Sports Films

#### Dance

North Star Ballroom; 9:00 p.m.

**Thursday, May 29** — Pumpkin Planting Dance

### Continuing Education in Urban Affairs Program

A service of the General Extension Division in cooperation with the Citizens League

**Wednesday, May 21, 12:00 noon** — "The British Police Experience" with Colonel Sir Eric St. Johnston; Nicollet Hotel (admission \$5.00, includes luncheon)

### University Film Society

Museum of Natural History Auditorium; 7:30 and 9:30 p.m.; admission varies with film

**Friday, May 16** — Jean Renoir program

**Friday, May 23, and Saturday, May 24** — "Blow-Up" (1966)

**Friday, May 30** — "Vampire Killers" (1967)

### James Ford Bell Museum of Natural History

Monday through Friday, 9:00 a.m.-5:00 p.m. (Wednesday, 9:00 a.m.-9:00 p.m.); Sunday, 2:00 p.m.-5:00 p.m.; by reservation, a guide can be made available to groups of fifteen or more; open to the public without charge

**Daily during May** — Outstanding displays of Minnesota wildlife scenes

### University Arboretum

Four miles west of Chanhassen on Highway 5; Monday through Friday, open to the public without charge; weekends and holidays, \$.50 per car; tours available on Saturdays, 10:30 a.m. and 1:30 p.m.; no charge for Arboretum members, \$1.00 for non-members

#### Spring Class

Thursday, 8:00 p.m.; \$1.00 for Arboretum members, \$2.00 for non-members

**Thursday, May 22** — "Plants for Shady Areas" by Mervin Eisel

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