

THE PRESIDENT'S REPORT  
FOR THE YEAR 1924-25

Mc

CONTENTS

	Page
The President's Report.....	5-93
General University problems .....	5-23
Administrative measures .....	23-29
Changes in the faculties.....	29-35
Buildings and improvements.....	35-37
Gifts .....	37-39
General University interests.....	39-61
Statistics of registration.....	61-92
Conclusion .....	93
Reports of the deans, etc.	
College of Science, Literature, and the Arts.....	94-96
College of Engineering and Architecture.....	97-99
Department of Agriculture.....	100-104
Law School .....	105-7
Medical School .....	108-10
College of Dentistry.....	115
School of Mines.....	116-21
College of Pharmacy.....	102-23
School of Chemistry.....	124-27
College of Education.....	128-30
Graduate School .....	131-41
Mayo Foundation .....	141-48
School of Business.....	149
Dean of women.....	150-57
Dean of student affairs.....	158-60
General Extension Division.....	161-77
Summer Session .....	178-81
Department of Physical Education and Athletics.....	182-98
Department of Physical Education for Women.....	199-205
Department of Military Science and Tactics.....	206
Geological Survey .....	207-8
Zoological Survey and Museum.....	209-20
University Library .....	221-31
Interfraternity Council .....	232-33
Field secretary and General Alumni Association.....	234-35
University Health Service.....	236-41
Bureau for Research in Government.....	242
Employment Bureau .....	243-46
Minnesota Union .....	247-48
Financial report .....	249-55
Publications of the faculties.....	256-308
Index .....	309 ff.

APR 7 1927 University of Minnesota

375824

## THE PRESIDENT'S REPORT

*Honorable Fred B. Snyder,  
President, Board of Regents,  
University of Minnesota.*

DEAR SIR: I have the honor to present through you to the Board of Regents of the University of Minnesota, my report of the University of Minnesota for the year 1924-25.

### BOARD OF REGENTS

During the year two changes have occurred in the membership of the Board of Regents. The Honorable J. A. O. Preus, (Minnesota Law '06) was succeeded by the Honorable Theodore Christianson (Minnesota Law '09) as governor of the state and as ex-officio member of the Board of Regents. It is proper in this connection to mention the fact that Governor Preus at all times manifested a lively interest in the welfare of the University. He recognized the needs of the institution and by every reasonable means sought to build and provide here a university that would be the equal of any institution of corresponding standing in the country.

Governor Christianson, who takes his place, has been a distinguished leader in the House of Representatives of the state legislature. It was as chairman of the Committee on Appropriations that he made his greatest contribution to the work of the legislature. He has consistently believed in the exercise of wise economy in the administration of all public affairs. He was a member of the survey commission, appointed by the Legislature of 1921 to investigate the educational agencies of the state. This commission made certain definite recommendations with reference to the University. Governor Christianson, then chairman of the Committee on Appropriations, lent his influence then as he had done upon previous occasions to those measures and the improvement of those conditions which the needs of the institution required.

The other change in the Board of Regents was the appointment of Mrs. Bess Wilson, of Redwood Falls, to succeed

Mr. M. M. Williams. Mr. Williams was appointed from Little Falls in March, 1910. He had served fifteen years. It can be truthfully said that the Board of Regents never had a more faithful, loyal, devoted, and conscientious member than Mr. Williams. His long years of intimate association with the development of the University was one of the factors determining the soundness of his judgment in considering university matters. Altho trained in engineering, he was one of Minnesota's best farmers. He traveled over most of the world studying the feeding of livestock, and dairying. He introduced the best farming methods on his own farms.

He was retired because of an act passed by the Legislature of 1923, which requires that there be one member of the Board of Regents from each congressional district. During Mr. Williams' period of service, Mr. A. D. Wilson had been appointed to membership on the Board of Regents from the sixth congressional district. Little Falls is in this district, consequently the governor could not reappoint Mr. Williams.

The governor did appoint Mrs. Bess Wilson. Mrs. Wilson is the editor of the *Redwood Gazette*; she has been a leader in the women's club work of the state; she has shown herself in all of her public work well qualified for her responsibilities as a member of the Board of Regents.

### THE UNIVERSITY'S GREATEST NEED

Discussion continues unabated as to the needs of our American colleges and universities. Some maintain that a reorganization of the curriculum, the prescription of high standards of scholarship with rules for enforcing them, the introduction of honors courses and credits for quality, elaborate tutorial and advisory systems, freshman dormitories, and the like are needed. All these things are desirable; it is to be hoped that they may be provided.

Then there are those who maintain that the greatest need is the elimination of many students now in, or planning to go to, college. They frankly insist that too many students are going to college. Too many for what, is not always clear. The claim is made that it is the business of the college to pick the gifted and to provide university education for them. It is true that there

always have been some persons who should not go to college; there are some now. Those who cannot and those who can and will not do satisfactory college work should not be allowed to linger around the institution. But the vast amount of consideration and attention which this particular problem is receiving in many quarters just now does not, in my opinion, represent the greatest need of our institutions of higher learning.

The greatest need, now as always, is great minded and great souled teachers, persons who have the power and who delight in using that power in inspiring students. President W. O. Thompson, of Ohio University, has said "The very marked tendency to put all the emphasis upon the inefficiency of the student has served as a smoke screen to protect inefficient and incompetent teaching." An overemphasis on scholarship with all of the rules that have been devised for measuring and tabulating it with an underemphasis on educational and liberal culture has misled a great many men and women as to the function of much of our "education" according to President Thompson. Continuing, he says "The first issue of a university, therefore, is to develop its faculty in magnanimity, generosity, world mindedness and cultural living. Such a faculty will produce liberal education in spite of the subjects they may undertake to teach."

This states my view precisely. Administrative devices and readjustments will help to improve our colleges and universities, but in the final analysis nothing is half so important as teachers genuinely interested in the teaching of youth. Not all who engage to teach possess this quality. Those who possess it in a high degree are always too few. Our problem is to seek them out and to reward them accordingly. A university with a faculty of twenty or even ten of the world's greatest teachers on it would be the greatest university of all time. In all our efforts to improve the university in material ways, nothing should be permitted to take our attention away from the most fundamental need—that of great teachers.

#### DR. MARION LEROY BURTON

Altho we were not wholly unprepared for the tragic news, still the announcement of the death of President Marion Leroy Burton, of the University of Michigan, on February 18, 1925, came as a distinct shock to us. He had been ill for some time. The turn

for the worse came a few days before the end. Through a long period of illness he made an heroic struggle to regain his health. But it was all in vain.

Dr. Burton was the fourth president of the University of Minnesota. He was elected president on January 31, 1917. He resigned on January 15, 1923, to accept the presidency at the University of Michigan. When he came to Minnesota he was almost unknown to the members of the faculty and student body. To be sure he was educated and had taught at Minnesota and he had had a distinguished career in the East, but he had never come into intimate contact with the staff and students at the University of Minnesota. When he left Minnesota he was respected and loved by students and faculty alike.

During his brief career as president, Dr. Burton secured large appropriations for the maintenance and development of the University and effected important internal administrative changes and adjustments within the University. His influence was by no means limited to activities of this character. He directed the University during the most difficult years of the war. His leadership, patriotism, and devotion to his country and to the cause of humanity which his country was seeking to serve, were manifest upon every occasion. His great achievement probably lay outside all these matters. It consisted of giving a finer and richer meaning to the University—a meaning which affected the morale upon the campus, renewed the ties and affection on the part of graduates and former students, and strengthened confidence among the citizens of the state in the life and work of the University.

Those who knew him best, loved him most. His characteristically human qualities, keen and enduring sense of humor, kindly and generous disposition, firm and just consideration in all matters either administrative or personal, were qualities that counted heavily in his success. He spared neither his time nor his talents in the great work in which he was engaged. He dedicated himself without stint to his work. In season and out of season, upon the campus and throughout the state, he was laboring to improve the educational opportunities for the sons and daughters of the citizens of the state. He looked upon his work as the highest form of public service, not as a task. He achieved much; but he gave much, if not all, in doing this. He paid the

great price that others might profit. A Christian gentleman, a leader of thought, a distinguished educator is gone.

In recognition of his great service to the University of Minnesota the Board of Regents adopted the following resolution:

*Be It Resolved:* That we, the Board of Regents of the University of Minnesota, over which Marion Leroy Burton presided in the stressful years of war and immediate reconstruction, express our sense of the loss to the educational world and to humanity in the passing from this life of his noble Christian leadership. Into a relatively brief career he crowded the achievements of a master educator which would have crowned a prolonged and very successful lifetime.

In looking back upon the decisive years when President Burton was with us, we see a great builder, a man of compelling personal magnetism, genuinely concerned in every human interest, and having a positive genius for enlisting support for any enterprise which he had in hand. He was charged with a passionate love for youth: in every problem which might arise his bias was always in the direction of the desires of his students. His patriotism was of the finest type; his war work was not forced, but came from the fullness of conviction; and he met the war crisis with no sparing of himself in the tremendous and sudden rebuilding which faced every great university; his courage, his industry, and his tact and good humor constituted our great asset in the problems and contending interests of that time.

President Burton bore his own burdens and spared his friends and associates; he carried his great tasks and responsibilities with apparent ease and with a cheerfulness which never failed. To those who knew him intimately he was a friend who inspired a warmth of love and admiration which will abide with them forever.

*Be It Resolved:* that this memorial be spread upon the records of the Board and transmitted to his family, to the alumni, and to the public.

## LEGISLATION

### I. GENERAL POLICIES

The legislature has always been disposed to deal with the University of Minnesota in a statesmanlike manner. The needs of the institution have been considered in relation to the other needs of the state. They have been met usually in proportion to the ability of the state to meet them. The Board of Regents, on the other hand, has always carefully considered and investigated and examined its budgetary requests before they were submitted to the legislature for consideration and action.

The University has been recognized as one of the powerful arms of the state—not powerful politically, for it has since its establishment diligently and with avowed purpose, refrained as an institution from political activity—but powerful in the sense that it has provided education for thousands of the youth of the state; powerful in the sense that it has sought to discover and has actually discovered new truths and facts about the cure of human disease, more economical methods of administering different kinds of business, the evaluation of the laws of justice, the improvement of methods of learning, the development of new varieties of grain, of fruits, of trees, of new ways of retaining and extending soil fertility; and powerful in the sense that through its schools, extension service, and experiment stations it has actually assisted the solving of many of the problems of the communities of the state. The University is, and should be, regarded as an instrument of service, and nothing else. It should develop as the state develops. The character and forms of service it renders and expects to render should be in keeping with the needs of its constituents. It is clear that it cannot do everything. What it does should be excellent in character in every respect.

Recent legislatures have done several things with regard to the administration of the University which were particularly wise in character. Among these are first, making the appropriations to the University in a lump sum; second, providing the University with a building fund extending over a long period of time; and third, increasing the appropriation from time to time in accordance with the actual needs of the institution.

For many years the University was required to submit a budget to the legislature in detail, item by item, and specification by specification. The appropriations were made in terms of these items and specifications. This was found to be highly impractical and in many cases, inefficient and uneconomical. At the time the budgetary estimates were prepared it would seem that an appropriation of \$4,000 for some special item would be quite adequate, but in the performance of the work some two, three or four hundred dollars more might be found necessary if the task was to be brought to a successful conclusion. Since this money was not available because it had not been appropriated for this purpose, it was necessary to stop the work sometimes at the point when



the work would have proved of greatest value to the institution and the state. Adjustments in budgetary items are necessary for the intelligent and successful performance of the work of the University. They make it possible for the University among other things, to make the shifts which are required to keep talented and distinguished persons on the faculty.

The regents of the University now very carefully study all the needs of the institution and prepare a detailed statement for the advice of the governor before the legislative session. The governor in turn incorporates this statement or such part of it as he deems wise after a proper hearing on the matter in his report to the legislature.

Following the action of the legislature, the Board of Regents prepares a careful detailed budget for each year of the biennium. This budget is adhered to so far as seems wise and practicable. Every transfer of every item or sum no matter how small is subject to careful consideration by the board or by a special committee of the board. This means that every emergency within the institution receives consideration and if the money is available it is met. At the close of each year, the comptroller of the University is required to prepare a detailed statement showing the sources of income as well as the expenditures of the institution. This report is usually prepared following an examination of all of the records by the state examiner, and is then filed with the Board of Regents. After consideration by the board, it is published for distribution.

The second respect in which the legislature has acted wisely and in a statesmanlike manner in dealing with the University, has been in making an appropriation of \$560,000 a year extending over ten years for university buildings. It was clearly shown at the time this appropriation was made that this sum of money was sorely needed by the institution to take care of its building requirements. The University has proceeded slowly, cautiously, and prudently in erecting new buildings. It has builded more wisely because the money became available annually than it would have builded if the money had all been available during one biennium. Occasionally, we find someone who feels that the University is expending large sums for buildings. It should be remembered in this connection, that during the last three or four

years there have been a number of large gifts for buildings at the University. The two new hospital units now being erected upon the campus as well as the stadium, are the gifts of friends of the institution. Some 17,000 persons contributed to the erection of the stadium and for an auditorium on the campus. The cancer unit of the hospital is the result of the \$250,000 gift by the Citizens Aid Society of Minneapolis. The Todd Memorial has been made possible by gifts from Mrs. Todd, Mrs. Gale, and Mrs. Mapes. There is, in addition, a gift now approximating a million and a half by Mr. William Henry Eustis, part of which will be used in erecting a crippled children's hospital unit on the campus.

So far as the buildings which have been erected at the expense of the state are concerned, it should be said that while Minnesota has been liberal in this respect, a number of our neighboring states have appropriated much larger sums for buildings over shorter periods of time than has Minnesota. The state of Michigan appropriated to the University of Michigan more than \$8,000,000 for buildings during the last four years. The state of Iowa has appropriated in the neighborhood of \$4,000,000 for buildings for the University during the last four years. The amount appropriated by the state of Illinois for buildings at the University of Illinois during the last biennium was \$2,500,000. A similar request is being made for the next biennium. Ohio has a building program of \$8,000,000 to be submitted at this next legislature. The program at Minnesota, if it continues to develop as it is now developing, will not be a burden upon the state at any time. We should be able to build in accordance with our actual needs, and to have ample time to study our problems. There will be no extravagances or lavish expenditures. Progress will be made wisely and intelligently. The legislature is to be commended for having adopted this plan.

A third respect in which the legislature has encouraged the development of the University has been in increasing the appropriations from time to time. It is true that these appropriations have not always been as large as the request submitted.

Four years ago, the University submitted a request of \$3,450,000 for operation and maintenance. The legislature appropriated \$3,000,000. Two years ago the University submitted

the same request as four years ago. The legislature appropriated \$3,150,000. The request of four years ago was made after a careful analysis of the University's needs. If it had been granted, there would have been no request for additional money made of the legislature two years ago and no additional request would be made at this time. Furthermore, the University of Minnesota, in every respect, would have been on a plane comparable with that of other institutions. We have not, we regret to say, been able to measure up to that standard in every respect. If we receive the appropriation which we ask this time, this defect will be remedied. If not, we shall fail in our competition with certain neighboring institutions for desirable men for the staff, find it increasingly more difficult to keep worthy men on our own staff, and we shall have certain inefficiencies in administration which will be more or less unfortunate. *This year the regents asked an appropriation of \$3,382,000 approximately \$70,000 less than was asked four years ago and two years ago.* The reason for this decrease was that the income of the University increased during the last biennium from the occupation tax and the swamp land funds, from certain increases in student fees, and from savings in our heating plant due to improvements. These increases represent new sources of income amounting to approximately \$70,000 a year.

When our former request for \$3,450,000 was submitted four years ago, it was based upon the instructional needs of the institution. During the next biennium, the number of students at the University increased about 1,500. It is perfectly clear that the appropriation was more sadly needed two years ago than it was four years ago. Some effort was made to meet these needs by the legislature increasing the appropriation from \$3,000,000 to \$3,150,000 a year.

For the actual maintenance and operation of the University during each year of the present biennium, we therefore submitted a request for \$3,382,000, this money to be provided by direct appropriation. This request includes the requests for the schools of agriculture as well as those for the various experimental stations throughout the state. It is our belief that there is no state that is getting more for its money in the way of higher education than Minnesota. The appropriations, as well as the requests at

the University of Minnesota, are less than those of a number of neighboring states where every cent is devoted to the university and to the college of agriculture. At Minnesota we have not only the University with its two campuses, but the several schools of agriculture to be cared for out of this appropriation. Considering the annual amounts which are required for the efficient management and operation of these schools, the sum which remains for the University and its various departments is small when compared to the amount of money appropriated by a number of other states for higher education. We have found it necessary to supplement the state's appropriation with increases in students' fees from time to time.

## 2. OTHER APPROPRIATIONS

In addition to the \$3,382,000 which was requested by way of direct appropriation for the maintenance of the institution, we requested reimbursement for the care of indigent patients at the University Hospital under the General Hospital Act, Section VII, Chapter 411, *Laws of 1921*, in the amount of \$200,000. One half of this sum had been collected by the state from the various counties of the state for the care and treatment of indigent patients which they had sent to the University Hospital. The other half was to be paid out of the funds collected by the state by taxation. The law providing for this plan was passed in 1921, after a careful study had been made by the university authorities of similar acts in Iowa, Michigan, and Wisconsin. It was believed that the law was just in every respect. It is clear that if the state expects to provide for medical training and for the training of nurses, that hospital is an absolute necessity. It is also clear that a hospital cannot be operated without patients. It was believed that the state should not be called upon to provide the total cost of the care and treatment of these patients. Wherever the law has been in operation, it has been the universal testimony that the check provided by the counties upon the patients whom they send to the General Hospital was wise in every respect. In view of the fact that they know they will be called upon to pay one half of the cost of caring for these patients, authorities are forced to scrutinize the cases with great care. It is not right that the county should pay the full cost for the reason that the doctors

and nurses who are being trained at the University may reside in other counties of the state. In other words, the state has a "stake" in the training of its doctors and its nurses and should share in the cost of their training.

In addition to the above amount the University requested the sum of \$180,000 each year to be appropriated in advance for the care of indigent patients at the University Hospital. Since the request for each year of the next biennium was larger than the total sum requested for the entire biennium just closing, the wisdom of the policy which was adopted four years ago after careful explanation, was questioned. Four years ago the University had only the Elliot Hospital unit on the campus. This unit has approximately 200 beds. Since then, through gifts, the University has been able to erect two other units—one for cancer patients and the other for eye, ear, nose, and throat patients. These two units will provide 90 additional beds making a total of about 290 beds in the University Hospital. This number, of course, is still very inadequate. It does not provide the facilities for all of the types of cases which are essential and necessary for the training of first-rate doctors and nurses. The University of Iowa with its new plan will hold more than a thousand beds. The University of Michigan will have more than a thousand beds. The University of Illinois will have as many or more. Through the co-operation which the University of Minnesota has with the number of local hospitals in Minneapolis and St. Paul, it is believed that its facilities will be adequate when about six hundred beds are provided. The principle which should govern the administration of the institution in expanding its hospital facilities is this: the University should have no more beds than are actually required for educational purposes. If the state is interested in providing fundamental and superior instruction to the men and women who are to administer to the sick and to conserve the health of the well, then the same principle should govern its action. The states and the counties from which the patients come should co-operate in maintaining these hospitals. Each should be expected to pay its share of the actual cost of the care and treatment of the patients.

When the legislature made its appropriation instead of providing the \$3,382,000 which the University should have for its

proper development, and the \$180,000 each year in advance for the maintenance of the hospital, it appropriated the total sum of \$3,200,000 each year which of course means that we operate to a certain extent under a financial handicap.

### 3. STATE DEPARTMENT OF ADMINISTRATION AND FINANCE

At the last session of the legislature an act known as An Act in Relation to the Organization of the State Government was passed. This act creates a Department of Administration and Finance and places it under the supervision and control of a Commission of Administration and Finance. The purpose of the act is to bring about a simplification and unification of the functions of state government, and to supervise and control the expenses and expenditures of the several officials and departments and agencies of the state government and of the institutions under their control. The commission is given power to make all contracts, do all purchasing, construct all buildings, direct the sale of all property, and to examine and investigate the organization of the various departments and agencies of the state government and the institutions under their control.

At this particular time (June 30) it is impossible to tell whether this act applies to, and includes, the University. There is some reason to believe that the University cannot be made subject to an act of this sort except by an amendment to the constitution. The Creative act of 1851 made the regents a public corporation. The right to be a corporation is a franchise. The constitution "perpetuated" this franchise, and the "rights, immunities and endowments" that accompanied it.

The Act of 1851 vested certain powers in the Board of Regents, among others the right to contract and to be contracted with; to make, use, and alter a common seal; to appoint a chancellor, professors, tutors and such other officers as they deem expedient; to determine the amount of their salaries; to erect buildings and to purchase apparatus; and to enact laws for the government of the University. Even if these powers were not specifically granted, the corporation from the fact and purpose of its creation would have such powers by implication as would reasonably be necessary for the accomplishment of its purpose.

It may also be remarked that the funds of the University come from several sources: the Federal Government, the state, fees from students, income from trust funds, and gifts, as well as from the operation of its service enterprises. The Board of Regents as a constitutional board has exclusive power and control at least over the revenues derived from the Federal Government, fees from students, income from trust funds, and gifts. Of course so far as state funds are concerned the legislature has the power to grant or withhold appropriations. It may even appropriate money with designation, but any attempt to appropriate money with designation so as to limit the constitutional powers of the Board of Regents has, I believe, been declared unconstitutional.

It should be said in this connection that the university authorities would welcome and gladly accept any opportunity to save money. The University, just as any other agency of the state, does not desire to spend money for the sake of spending it. It is the business of the University to spend money where it feels reasonably assured that by so spending it, it will improve the educational facilities and conditions for the boys and girls of the state who attend it, or by spending it, it will lead to the discovery of new knowledge and of new truth. Great liberality and freedom must be permitted in these respects if an institution of higher education is not to suffer.

It should be said still further that the University should cooperate with the Commission of Administration and Finance or any other agency of the state in any way possible if the co-operation means a saving.

#### 4. THE GENERAL HOSPITAL ACT

The Legislature of 1921 passed an act providing for the establishment of a Minnesota General Hospital upon the University campus with the Elliot Hospital as one of its units. This act provided for the sending of indigent cases to the Minnesota General Hospital from any county in the state. It required the hospital authorities of the University to keep an accurate and detailed account of the cost of care and treatment of such cases and to file this account at regular periodic intervals with the state auditor who, under the act, was expected to reimburse the University, collecting one half the cost in each case from the

county from which the patients were sent. The original act provided that the patients should be sent by the judges of the probate court of the counties in which they resided. Some question was raised as to the authority of probate judges to perform this duty and, as a result, the act was amended at the last legislature so that the county board or any member of the county board may authorize the sending of such patients to the Minnesota General Hospital.

In this connection, attention is called to the fact that another difficulty has arisen in connection with the operation of the Minnesota General Hospital Act. It appears that a number of years ago, a constitutional amendment was adopted at Minnesota which makes it impossible for the legislature to appropriate any funds from the treasury under that general flexible clause "not otherwise appropriated" without specifying the exact amount. It has not been possible for the University to tell how much money will be required annually to cover the cost of care and treatment of the indigent patients that would be sent to the Minnesota General Hospital. It has not been possible for definite sums to be specified in the appropriation act. In other states, notably Iowa and Michigan where similar laws were passed, provision was made for the university to be reimbursed for the cost of the care and treatment of these indigent patients out of funds "not otherwise appropriated." One half the cost of this care and treatment in these states is collected by the auditor of the state from the counties from which the patients are sent. In this state, however, the attorney general has held that no money can be turned over to the University under the act. It is therefore necessary for the University to come back to the legislature two years later and file a special statement requesting that the University be reimbursed for the cost of care and treatment of the patients that have come under the provisions of the act. In other states, for example, Wisconsin, Iowa, and Michigan, provision is made at the time the state tax levy is determined for the raising of funds for the support of the general hospital located on the university campus. In Minnesota, no such provision has been made.

The number of patients coming to the Minnesota General Hospital under the provisions of the act is increasing. They are being sent from almost every county in the state. One half the



cost of the care and treatment is collected by the state auditor and lies in the state treasury. The University is finding it increasingly more difficult to operate because the money which it should have for this purpose is not available. Last year, as a matter of fact, the University was compelled to anticipate \$50,000 of these receipts.

The total receipts for the biennium amounted to \$167,268. The University was reimbursed this entire sum. But the fact that it is necessary for the University by some means or other to carry the maintenance of the hospital during the biennium without reimbursement until after the biennium is closed makes a heavy burden upon the institution. In fact, it actually means that money that should be used for equipment and salaries for the rest of the staff must be held in reserve for this purpose. It means that students and faculty of every other college of the University are paying out of the opportunities and income, which they should have, for the care of the indigent patients sent to the University and for the education of students in medicine and nursing, who must have patients for their instruction. This arrangement is unfortunate; it has kept us from providing as liberally in the matter of educational facilities and staff for some of the colleges as we should have. It is an arrangement which is followed nowhere else throughout this country, I believe.

At the last session of the legislature some questions were raised as to the wisdom of the General Hospital Act and as to the need of expanding our hospital facilities. This act, or an act somewhat similar to it, is absolutely necessary if the state is to provide for the training of its doctors of medicine, doctors of surgery, and its nurses. Men and women cannot be trained for the practice of these professions in this day and generation without the opportunity of working with hospital patients. Men cannot be trained in human surgery by observing an anatomical atlas; men cannot be trained to diagnose and treat the delicate problems of internal medicine by reading a textbook; women cannot be trained to be expert nurses by "listening to tales of old women." Laboratories, apparatus, hospitals, patients—all are necessary. And these cannot be provided or maintained without funds. The state, I have assumed, has a stake—a precious human stake—in the

training of its doctors and nurses. It may be that we do not appreciate how dear that stake is until disease strikes close to our own hearts. If the state fails adequately to appreciate how important well-trained doctors and nurses are for the health, the happiness, and the economic resources of her citizens, then we shall find it difficult to support our hospital and impossible to expand it. That would be tragic, for already we are in a fair way of falling behind the achievements in medical education that have been made in a number of neighboring states. We cannot believe that this is the intention or the desire of the people of this state.

#### 5. DORMITORIES

For years the University has been seeking to improve and to enlarge its dormitory facilities. A carefully prepared plan was prepared during the year. This plan, together with the explanation which accompanied it, was submitted to the legislature. The complete statement submitted to the legislature was as follows:

##### DORMITORIES

In his first report to the Board of Regents more than fifty years ago, Dr. Folwell pointed out the need of dormitories at the University. Practically every report of the various Presidents of the University since then has emphasized this need. The attention of the Legislature has been called to it repeatedly.

The Interim Education Commission in its report to the Legislature in 1923, recommended that this problem receive favorable consideration, if possible.

It has been possible to erect only one dormitory upon the main campus during the last half century—a dormitory that houses two hundred girls—and yet there are in round numbers nine thousand students attending the University on this campus. The problem of residence accommodations for students is more acute than ever. Something must be done.

The plan we are submitting we believe to be a practical plan—one that will solve the problem without costing the state one cent. This plan is not new; it has been used elsewhere. It will be used generally at educational institutions. Neighboring states are asking permission to use it. The plan is simplicity itself. It simply involves giving the Board of Regents permission to issue certificates of indebtedness for the purchase of land and the erection of dormitories with the understanding that these certificates of indebtedness shall not be paid for out of any funds appropriated by the state for the maintenance of the institution or out of trust funds given to the University for specific purposes.

How shall the certificates of indebtedness be paid? By a building revolving fund. How shall this fund be created? In three ways. First,

from the income of property already in possession of the University; secondly, from the operation of the dormitories themselves, and thirdly, from any other money which may be given to the University, or which it may acquire in other ways—but not money which is appropriated by the state. The property already in possession of the University consists of a number of buildings, nearly all residences that have been acquired during the last ten or fifteen years. These residences and old stores located on property adjacent to the University Storehouse are now being operated so as to produce an income which amounts to approximately ten thousand dollars a year.

The dormitories can be operated so as to produce a fair rental to the University and a saving to the students. In other words, the students will pay, we believe, less for dormitory accommodations than they are now compelled to pay in private residences in the vicinity of the University. And they will have far better quarters. This practice of operating dormitories so as to produce a net income is common to many universities, the income being used to provide other and better facilities for students.

From these sources it will be possible for the University to secure enough revenue to retire its certificates of indebtedness over a reasonable period of time. It will also be possible for the University, in time, to gather momentum with its dormitory program. The building program would proceed intelligently and in accordance with the University's needs.

It would be the purpose of the University to erect dormitories for the housing of freshmen first. Every freshman who lives away from home, unless excused by the University, would be required to live in a dormitory during his entire freshman year, where he would be under close supervision and control of the University. Later dormitories would be erected for the upper class students.

Arguments with reference to the desirability, as well as the need, of having proper and satisfactory residence accommodations for students would seem to be unnecessary. It is recognized by every one that they are fundamental to good studentship and to wholesome living. There is no reason why the sons and daughters of Minnesotans should be required to go elsewhere because of the lack of such facilities at Minnesota. The plan the Regents are submitting will solve the problem we believe, not all at once, but in the course of time, and it is hoped that it will commend itself to the wisdom of the Legislature.

#### A BILL

An act providing for the acquisition of land and the construction and equipment of dormitories and other service buildings by the University of Minnesota; authorizing the issuance of certificates of indebtedness by the University for such purposes, such certificates and the interest thereon to be paid from the receipts of the University not specifically appropriated for other purposes.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. The Board of Regents of the University of Minnesota is hereby authorized to use any and all University funds not appropriated by

the state for its maintenance and operation, except trust funds and funds specifically appropriated for other purposes, to provide the necessary funds for acquiring land, buildings, and erecting and equipping buildings for dormitories and other service purposes for the University of Minnesota.

Section 2. The buildings to be erected shall be constructed under the supervision of the Board of Control, as provided in Section 3066, General Statutes of Minnesota 1913. The Board of Control shall cause to be prepared such plans and specifications as the Board of Regents may request and shall award contracts for buildings as so requested within a safe margin of the anticipated funds, provided that no contract shall be entered into until there is full assurance that the funds will be available to meet current payments.

Section 3. The Board of Regents is hereby authorized, in its discretion, to anticipate the receipts referred to above and to issue and dispose of, on such terms and conditions as may be determined by it, the certificates of indebtedness of the University of Minnesota, not exceeding in amount, however, the sum of \$500,000 in any one fiscal year, and provided that at least 4 per cent of all outstanding certificates of indebtedness shall mature, be paid and cancelled each year.

Section 4. The proceeds of the sale of such certificates shall be paid into the state treasury to the credit of a fund to be known as the "University Building Revolving Fund" and the University of Minnesota is hereby authorized to use the moneys which shall from time to time be paid into such fund either from the proceeds of the sale of such certificates or from the receipts referred to in this act, for the purposes set forth in this act.

Section 5. The Board of Regents of the University of Minnesota is hereby authorized to acquire land for the purposes stated in this act by purchase or condemnation. In case it is desired to use any funds of the "University Building Revolving Fund" for the acquisition of land, the power of eminent domain may be exercised under Chapter 41, General Statutes 1913, and acts amendatory thereof. Upon the completion of such condemnation, every right, title, estate and interest and easement of whatever character, whether actual, vested or contingent or reversionary, or possible, shall vest absolutely and in fee simple in the University of Minnesota, unqualified in any way whatever. "All persons unknown having or claiming any title or interest" may be joined by that designation and shall be bound by the judgment.

All awards and judgments in such condemnation proceedings, unless set aside by the court, shall be a charge upon the state.

Possession may be taken of any tract at any stage of the proceedings, and the court may issue a writ or writs to put the University of Minnesota in possession thereof. Failure to pay the awards within the time specified in said Chapter 41, *General Laws of 1913*, shall not defeat the proceedings.

Section 6. Each section of this act and every part thereof is hereby declared to be an independent section or part of a section and if any section, sub-section, sentence, clause or phrase of this act shall for any reason be held unconstitutional, the validity of the remaining phrases,

clauses, sentences, sub-sections and sections of this act shall not be affected thereby.

Section 7. All acts and parts of acts in conflict with the provisions of this act are hereby repealed.

Section 8. This act shall take effect and be in force from and after its passage.

The bill passed the House unanimously, but it failed to be reported out of the Finance Committee of the Senate. Just why so sensible a proposal as this should fail to receive favorable consideration, it is difficult to understand. No one who has the slightest knowledge of the facts can fail to recognize the paramount need for dormitories at the University. The plan should commend itself to anyone interested in saving money for the state: the students would pay for the dormitories. To those who have misgivings with reference to the matter, the answer is that it is being done at many institutions throughout the United States. We hope that this measure may receive more favorable consideration another time.

## ADMINISTRATIVE MEASURES

### I. AGREEMENT WITH THE GLEN LAKE SANATORIUM FOR THE TRAINING OF NURSES

About October 15, 1924, the tuberculosis work was discontinued at the Minneapolis General Hospital. The patients were all transferred to the Glen Lake Sanatorium. At that time it was agreed that the students of the central schools should have the benefit of the nursing study of tuberculosis at Glen Lake but the University was unable until recently to agree upon a definite plan for this service. The Committee of the School of Nursing which has had the matter under consideration, has worked out the following plan, which was approved by the Board of Regents at the May meeting. The proposal is as follows:

1. That regular and affiliating students of the School of Nursing be assigned during the current and ensuing year in rotation for a six weeks' course of study and practice to the Glen Lake Sanatorium.
2. That such affiliating students as are so assigned be without charge to the Glen Lake Sanatorium, excepting for housing and board during the period of their service there.
3. That regular students of the School of Nursing under this arrangement be assigned to the Glen Lake Sanatorium at a charge of \$55 per stu-

dent per year's service until June 30, 1925, and thereafter at the rate of \$62.50 per student per year's service.

4. That the former rate be applied to the twenty-six students who have been, or are now, assigned to the Glen Lake Sanatorium during the period covered between October 15, 1924, and April 24, 1925.

It will be understood that approximately 45 per cent of the students assigned to the Glen Lake Sanatorium will be affiliating students and approximately 55 per cent will be regular students.

## 2. DEPARTMENT OF GEOGRAPHY

Geography and geology have for years been taught in the same department in most institutions. The development of each of these fields has required men of scholarly attainment and of scientific training. The work of men of this character has resulted in our enormous increase in information. New relationships were discovered between geography and geology, and relationships hitherto unthought of were discovered with other fields. It became more and more obvious that these fields could no longer be developed together, even tho they have much in common. Recognizing the importance of granting to both types of thought the fullest and freest possible scope, the regents of the University voted on February 18, 1925, to establish a separate Department of Geography and Associate Professor D. H. Davis was appointed as its head.

## 3. SALARY SCHEDULE OF PERSONS IN THE CLASSIFIED SECRETARIAL, CLERICAL, AND STENOGRAPHIC SERVICE OF THE UNIVERSITY

### I. For those just entering University service:

	1st year	2d year	3d year and after
Class 7 .....	\$ 780	\$ 840	\$ 840
Class 6 .....	840	900	960
Class 5 .....	960	1,020	1,080
Class 4 .....	1,080	1,140	1,200
Class 3 .....	1,260	1,320	1,380
Class 2 .....	1,380	1,440	1,500
Class 1 .....	1,600	1,700	1,800

NOTE 1.—The above salaries are maximum. It is allowable for officials to engage persons at a lower salary than above stated in case a person is engaged who is not well prepared for the work and must be expected to grow into the position.

NOTE 2.—The above salaries are not guaranteed except upon recommendation of the head of the department concerned. The object of the schedule is to guarantee to the department heads the approval of the higher salary in case they recommend it but it is understood that it will not be recommended unless the work of the appointee is entirely satisfactory.

II. For those who are promoted from a position in one classification to a position in a higher classification.

Inasmuch as the salary schedule above indicated has the same salary in most cases for the first year in one classification as for the third year in the classification above, increase in salary for those being promoted from one classification to another will be provided by allowing the salary stated for the second year of service in the table above to be given to the person promoted from a position in one classification to a position in a higher classification, wherever such provision is necessary in order to provide an increase of \$60 a year.

III. The year of service in the above schedules means the fiscal year from July 1 to July 1.

Provided a person employed from as early as November 1 will be regarded as having rendered a year of service by the following July 1. Those employed after November 1 will not be qualified for advance in salary until the second succeeding July 1, unless special exception is made for them at the time of their employment.

#### 4. EDUCATIONAL TRAINING OF DISABLED SOLDIERS

A contract was entered between the University of Minnesota and the United States Veterans' Bureau under which the University assumes responsibility for giving the educational work beginning July 1, 1925, for those trainees who have been assigned to agricultural projects in Minnesota. This work has formerly been directed from several centers in the state but with rapidly diminishing numbers of trainees, it was thought desirable to do the work from one center. The Veterans' Bureau was very desirous of making the University that center. Under a contract which limits the University's responsibility to the strictly educational activities the University accepted the invitation of the Veterans' Bureau to assume responsibility for the work. Professor E. L. Holton, head of the Department of Education and dean of the Summer Session of the Agricultural College at Manhattan,

Kansas, was called to take charge of the work for a year. Mr. Holton secured a leave of absence from his institution and will spend the year 1925-26 at the University of Minnesota.

#### 5. -CHANGES IN FEES

During the year the following actions concerning fees were passed by the Board of Regents:

Voted to approve the following recommendation concerning the general deposit fee:

1. That beginning with the winter quarter of 1924-25 towel charges for work in Physical Education for Men be taken care of by direct purchase of towel tickets from the bursar.
2. That beginning with the academic year 1925-26 every student not now exempted from the payment of the miscellaneous fees be charged one incidental fee of \$4 per quarter which will include the following general fees:

Minnesota Union .....	\$1.00
Health fee .....	2.00
Minnesota Daily .....	.50
Post-office box rental .....	.20
Address Book .....	.10

This will free the general deposit from fixed charges made against all students and leave the deposit fee available for departmental laboratory charges, library charges, locker, etc., which vary in individual cases. The actual increase over what a student now pays is \$0.55 for the year.

It is understood that the allotments to the Health Service, Minnesota Union, Shevlin Hall, post-office, *Minnesota Daily*, and *Address Book* will be made in lump sums from these receipts based on actual registration.

3. That the basis for refund for this incidental fee shall be the same as the basis for the refund of tuition, except that in no case shall more than \$3 be refunded.

#### SUMMER SESSION LATE REGISTRATION FEES

Voted to adopt the following schedule of late registration fees for the Summer Session: for those completing their registration one day after announced dates, \$2; two days, \$3; three days, \$4; four or more days, \$5.

#### SPECIAL STUDENTS IN DENTISTRY

Voted that special students in dentistry be registered through the General Extension Division and that they be charged the clock



hour or quarterly fees as the case may be, which are at the time in effect in the College of Dentistry, effective beginning with the academic year 1924-25.

#### GRADUATION FEES

Voted to approve a \$10 graduation fee for all degrees, effective January 1, 1926.

#### UNIVERSITY EXTENSION LATE REGISTRATION FEE

The director of University Extension is authorized to charge a late registration privilege fee of \$1 per class during the third week of any semester or during the third week after the organization of any class, and \$2 per class during the fourth week; provided, that the director in his discretion may suspend the operation of the regulation in specific cases.

#### GRADUATE STUDENT FEES

Voted that the action of the Board of Regents of September 21, 1923, relating to fees of graduate students, be amended to read as follows:

That graduate students in clinical branches, not holders of fellowships or otherwise entitled to exemption or lesser fees, shall pay the same fees as special students in the Medical School; that is, \$60 per quarter.

#### SANFORD HALL

Rates for rooms were changed to \$125 per quarter for a double room and \$135 per quarter for a single room.

#### BOARD AND ROOM IN MEN'S DORMITORIES

For double rooms the same fee to be maintained at \$360 but for single rooms the fee is \$390 a year.

### 6. INSTITUTE OF CHILD WELFARE

Public education has concerned itself to date with children from six or seven years of age on. Kindergartens have been established in some places to care for children a year or two younger. It has been recognized for a long time that there are many influences at work on children below public school age and even below kindergarten age which vitally affect the results of public education. Unfortunately, tho, little study has been made of what constitutes the right training, the right feeding, the right clothing, in short, the right nurture of children below the age of five years. A few nursery schools have been established and here

and there definite research has been begun on these problems. The University of Minnesota is glad to have a part in this important development.

With the aid of a gift of \$250,000 from the Laura Spelman Rockefeller Memorial, an Institute of Child Welfare was organized during 1924-25 to begin operation with the opening of the year 1925-26, and to continue for five years. The institute will occupy the building which has been previously known as the Publications Building. Dr. John E. Anderson, assistant professor of psychology at Yale University and secretary of the National Psychological Association, has been appointed director.

In addition to a nursery school, there will be maintained an infants' home where children may be under scientific observation from the date of their birth to the age of two years. The program involves scientific research in all the aspects of child nature, the training of workers in the various fields relating to pre-school children, and extension work throughout the state of Minnesota on programs of child training and parenthood.

#### 7. CURRICULUM IN AGRICULTURAL ENGINEERING

At the June meeting of the Board of Regents there was approved a four-year curriculum leading to the degree of bachelor of science in agricultural engineering. This curriculum has been arranged by the representatives of the Division of Agricultural Engineering and of the College of Engineering and Architecture. It has been approved by the deans and the proper committees of both colleges. Students registered for this curriculum will be students in the College of Engineering and Architecture. They will register in this college and receive their degrees from it. The general control of the curriculum will reside with the deans in agriculture and engineering.

The announcement of this curriculum does not involve the University in any additional expense. The courses entering into the curriculum already exist.

The reason for organizing and announcing this new program of work is that need for agricultural engineers is increasing.

## CHANGES IN THE FACULTIES

*Appointments.*—The following appointments to positions of professorial rank were made during the period under review:

Willes Barnes Combs, professor of dairy husbandry

B.S., 1915, Missouri Agricultural College; M.S., 1917, Missouri Agricultural College; assistant, University of Missouri, 1915-17; instructor, New Jersey Agricultural College, 1917-18; assistant professor, University of Missouri, 1918-19; associate professor, Pennsylvania State College, 1920-24.

Fred Engelhardt, professor of education

Ph.B., 1908, Yale University; M.A., 1915, Columbia University; assistant instructor, Yale University, 1908-9, instructor at Western Military Academy, Alton, Illinois, 1909-11; superintendent and principal at Malone, New York, 1911-16; did graduate work at University of Pennsylvania 1916-17; captain and major in A.E.F. from April, 1917, to February, 1919; inspector of elementary education at Albany State Department of Education from March until September, 1919; director of the Bureau of Educational Administration at Harrisburg, Pennsylvania, 1919-22; assistant dean at the University of Pittsburgh, 1922-23.

Thomas Claffey Lavery, professor of law

B.A., 1916, George Washington University; LL.B., 1920, George Washington University; assistant professor, George Washington University, 1920-23.

Pitirim A. Sorokin, professor of sociology

Candidate of law, 1914, University of Petrograd; master of criminal law, 1915, University of Petrograd; doctor of sociology, 1922, University of Petrograd; professor of sociology, University of Petrograd, 1919-22.

Charles Kingsley Webster, professor of history for winter quarter

B.A., 1907, Kings College, England; M.A., 1910, Kings College; fellow, Kings College, 1910-14; professor, University of Liverpool, 1914-22; professor, University of Wales, 1923-24.

Sherman W. Fingar, associate professor of physical education and athletics

Ph.B., 1907, University of Chicago; athletic director, Cornell College, 1907-24; athletic director of third army, overseas, 1918-19.

Louis Finley Kellar, associate professor of physical education and athletics

B.A., 1915, Oberlin College; M.A., 1924, Oberlin College; instructor, Oberlin College, 1915-17; assistant professor, 1919-24.

Edward Hinman Sirich, associate professor of Romance languages

B.A., 1906, Johns Hopkins University; Ph.D., 1914, Johns Hopkins University; professor, St. John's college, 1908-12; instructor, University of Minnesota, 1914-16; assistant professor, 1917-23; professor, St. John's College, 1923-24.

Captain Nyal L. Adams, assistant professor of military science and tactics

Leo Dewey Anderson, assistant professor of psychology

B.A., 1920, University of Wyoming; M.A., 1922, Carnegie Institute of Technology; courses at Columbia University, 1922-23; assistant in psychology, University of Minnesota, under auspices of National Research Council, 1923-24.

Carlos Vazquez-Arjona, assistant professor of Romance languages

B.S., 1920, Johns Hopkins University; M.A., 1923, Johns Hopkins University; Ph.D., 1925, Johns Hopkins University; professor, Naval Academy, 1917-20; assistant professor, United States Naval Academy, 1920-24.

Charles LaFayette Bane, assistant professor of psychology in General Extension Division

B.A., 1916, University of Texas; M.A., 1918, George Peabody College; Ph.D., 1924, Iowa State University; one semester, University of Nancy, France, 1919.

Jay Karl Ditchy, assistant professor of Romance languages

B.A., 1911, University of Michigan; M.A., 1913, University of Illinois; Ph.D., 1924, Johns Hopkins University; instructor, Ohio State University, 1913-17; assistant professor, United States Naval Academy, 1917-18, 1919-24; staff interpreter, General Headquarters, A.E.F., 1918-19.

Lewis Burtron Hessler, assistant professor of English

B.A., 1905, University of Pennsylvania; M.A., 1906, University of Pennsylvania; Ph.D., 1916, University of Pennsylvania; instructor, University of Michigan, 1908-11; instructor, University of Pennsylvania, 1912-17; instructor, University of Minnesota, 1918-19; head of English Department, University of New Mexico, 1920-23.

Robert Stose Hilper, assistant professor of art education

B.S., 1916, University of Chicago; art training, Church School of Art, Chicago, 1917-20; at University of Beaune, France, summer of 1919; at University of California, 1922; interior decorator, Tobey Furniture Company of Chicago, 1918-20; art teacher, St. Cloud, Minnesota, public schools, 1921-24.

Erich Gustav Otto Horlbog, assistant professor of entomology

Ph.D., 1921, University of Halle, Marburg.

Arnold Harvey Johnson, assistant biochemist with rank of assistant professor

B.S., 1921, University of Minnesota; M.S., 1923, University of Minnesota; Ph.D., 1924, University of Minnesota.

Irving Willard Jones, assistant professor of music in the Extension Division

Ph.B., 1916, University of Wisconsin; instructor, New Hampshire Normal School, 1906-11; instructor, University of Wisconsin, 1911-16; assistant professor, University of Wisconsin, 1918-19; adjunct professor, University of Texas, 1919-21; associate professor, Beloit College, 1921-24.

Jane M. Leischsenring, assistant professor of nutrition

B.S., 1919, University of Illinois; M.S., 1921, University of Illinois; Ph.D., 1924, University of Illinois; assistant, University of Illinois, 1919-24.

Alexander Haggerty Krappe, assistant professor of Romance languages

M.A., 1918, Iowa State University; Ph.D., 1919, University of Chicago; studied, University of Berlin, 1915-16; assistant, University of Chicago, 1918-19; instructor, Indiana University, 1919-22; professor, Flat River Junior College, 1922-24.

Harold F. Kumm, assistant professor of political science

LL.B., 1920, Stanford University; B.A., 1921, University of Minnesota; M.A., 1923, University of Minnesota; S.J.D., 1924, Harvard University.

Henry Lacy McClintock, assistant professor of law

Ph.B., 1903, Colorado College; LL.B., 1906, Denver University; S.J.D., 1924, Harvard Law School; practiced law at Grand Junction, Colorado, 1906-13; editor, West Publishing Company, 1913-23.

Katherine Hampton McFarland, manager of dining hall and cafeteria with rank of assistant professor

B.S., 1918, Kansas State Agricultural College; M.A., 1922, University of Chicago; taught, Oregon Agricultural College, 1918-20; taught at Purdue University, 1922-24.

Daniel Cobb McIntosh, assistant professor of agricultural education

Ph.G., 1908, Indiana College of Pharmacy; B.A., 1913, Indiana University; M.A., 1916, Indiana University; B.S., 1921, Iowa State College; Ph.D., 1924, Indiana University.

Ralph Eugene Montonna, assistant professor of chemical engineering

B.S., 1916, Syracuse University; Ph.D., 1924, Yale University; professional work, 1916-22.

Major Edward Montgomery, assistant professor of military science and tactics

Wilton Burton Persons, assistant professor of military science and tactics

B.S., 1916, Alabama Polytechnic Institute; United States Army.

Lester Raines, assistant professor of English

B.A., 1918, University of Illinois; M.A., 1920, University of Illinois; taught at University of Pittsburgh, 1920-22; Iowa State College, 1922-24.

Captain William P. Schwatel, assistant professor of military science and tactics

Bessie Caroline Willis, clothing specialist in agricultural extension, with rank of assistant professor

B.S., 1919, University of Minnesota.

Smiley Blanton, professorial lecturer in educational psychology

B.S., 1904, Vanderbilt University; M.D., 1914, Cornell College; Diploma of Psychological Medicine, Royal College of London; instructor, Cornell College, 1907-11; instructor and associate professor, University of Wisconsin, 1914-23; lecturer, Harvard summer school, 1916; director, Minneapolis Child Guidance Clinic.

Joseph Clifton Brown, professorial lecturer in education

B.S., 1901, Hanover College; M.S. 1911, Columbia University; teacher in high schools and superintendent of schools, Indiana; instructor at Eastern Illinois State Normal School, Charleston; supervisor at Horace Mann Schools, New York City; director of Training School for Teachers at University of Illinois; president State Teachers College at St. Cloud, Minnesota, 1916 to date.

Wesley E. Peik, professorial lecturer in education

B.A., 1911, University of Minnesota; M.A., 1923, Teachers College, Columbia University; superintendent of various schools in Minnesota for thirteen years.

E. T. Tinker, professorial lecturer in dentistry

John F. Fulton as professor of ophthalmology, emeritus

*Promotions.*—From associate professor to professor: Joseph W. Beach, Ray R. Knight, Karl S. Lashley, F. H. MacDougall,

Walter H. Parker, M. Cannon Sneed; from assistant professor to associate professor: Robert W. French, John M. Gaus, Isaac W. Geiger, Ernest A. Heilman, M. B. Lambie, Fred C. Lang, William Lindsay, Herbert C. Nelson, Oscar W. Oestlund, Carl F. Otto, George A. Pond, Harold Quigley, Marion L. Vannier (superintendent of nurses and assistant professor to director of School of Nursing and associate professor), Carl W. Waldron; from instructor to assistant professor: Gertrude M. Baker, Leonard F. Boon, Walter E. Camp, George D. Estes, William H. Goeckermann (Mayo Foundation), Fred Griffee, Thorvald S. Hansen, Henry Hartig, Arthur W. Henry, Walter Hoffman, Gertrude Hull, John A. Lepak, Mark A. McCarty, Paul R. McMiller, Paul O'Leary (Mayo Foundation), Harry J. Ostlund, Gertrude Reeves, Robert F. Schuck, Louis W. Thom, Warren C. Waite; from lecturer to professorial lecturer: Frank J. Bruno.

*Leaves of absence granted during the year.*—Guy S. Ford, dean of the Graduate School, from January 1 to September 1, 1925, without salary, to assist in evaluating the present enterprise of the Laura Spelman Rockefeller Memorial; C. H. Bailey, professor of agricultural biochemistry, from July 1, 1924, to June 30, 1925, without pay, to work with technical Bureau of Biscuit and Cracker Manufacturing Association; Paul H. M-P. Brinton, professor of analytical chemistry, sabbatical furlough for 1924-25 to study in the East and London; N. S. B. Gras, professor of industrial history, sabbatical furlough for 1924-25, for study and research in England; A. E. Jenks, professor of anthropology, sabbatical furlough for 1924-25 for research, writing, and travel; F. W. Springer, professor of electrical engineering, for spring quarter of 1924-25, with full pay, to be spent in study, leave to be regarded as two thirds of a year's sabbatic leave; E. E. Stoll, professor of English, for 1924-25 without pay, on account of health and to write; Fletcher Harper Swift, professor in College of Education, for 1924-25 without salary, to teach and study at Columbia University; William Anderson, associate professor of political science, sabbatical furlough for 1924-25, for study and writing in the East and in England; Gisle Bothne, associate professor of Scandinavian languages, for fall quarter of 1924-25, without pay to carry on work for Norwegian centennial celebration; Raymond W. Brink, associate professor of mathematics, sabbatical furlough for the year 1924-25, for study in

European universities; Elmer J. Lund, associate professor of zoology, sabbatical furlough for 1924-25, for study and travel in Europe and America; William S. Cooper, assistant professor of botany, sabbatical furlough for 1924-25 for research work in plant ecology in California; W. P. Dyer, assistant professor of agricultural education, sabbatical furlough for 1924-25 to study for Ph.D. degree at Columbia University; A. M. Field, assistant professor of agricultural education, sabbatical furlough for 1924-25, to study for Ph.D. degree at Cornell; Elizabeth Jackson, assistant professor in the Department of English, sabbatical furlough for 1924-25 for research and writing in London, England; Gustaf Lundquist, assistant professor of rural sociology, sabbatical furlough for 1924-25 for study in Denmark; Kemp Malone, assistant professor of English, without salary for 1924-25 to teach at Teachers College, Columbia University; George H. Montillon, assistant professor of chemical engineering, for 1924-25 without salary, for graduate study for Doctor's degree at University of Michigan; Roderick W. Siler, assistant professor of mathematics in engineering, sabbatical furlough for 1924-25 for study in France and England; Barbara A. Thompson, assistant superintendent of School of Nursing, from March 7 to July 1, 1925, without pay, to travel in Europe; Alice Tolg, assistant professor of physical education for women, sabbatical furlough for 1924-25, for study in the East and London; F. A. Wittich, assistant professor of medicine, for one year, beginning July 1, 1924, without salary, to do research work.

*Resignations.*—During the year the following members of professorial rank resigned from the faculty: Henry W. Ballantine, professor of law; Richard Burton, professor of English; Fletcher Harper Swift, professor of education; Louise M. Powell, associate professor and director of School of Nursing; Charles L. Bane, assistant professor in General Extension Division; Gregory Breit, assistant professor of physics; A. B. Butter, assistant professor of dentistry; LeRoy A. Calkins, assistant professor of obstetrics; Angus L. Cameron, assistant professor of surgery, Chester D. Dahle, assistant professor of dairy husbandry; Davis Edwards, assistant professor of English; R. O. Filter, assistant professor of psychology; Captain Roger Hilsman, assistant professor of military science and tactics; Georgina Lommen,



assistant professor and preceptress in School of Agriculture; E. R. Martin, assistant professor of electrical engineering; Major Edward Montgomery, assistant professor of military science and tactics; William Naegeli, assistant professor of dentistry; George M. Olson, assistant professor of dermatology and syphilis; Thomas M. Raysor, assistant professor of English; Hazelton Spencer, assistant professor of English; Gustave van Roosbroeck, assistant professor of Romance languages; Major Frederick R. Wunderlich, assistant professor of military science and tactics; William H. Spaulding, head football coach; Frank John Bruno, professorial lecturer in sociology.

*Death.*—Archibald MacLaren, professor of surgery, October 13, 1924.

STUDENT LOANS

The following table gives the data concerning loans to students from the regular loan funds, not including those handled directly by the dean of women and the dean of student affairs:

New Loans	No.	Aggregate Amount	Average Amount	Loans of				Balance July 1, 1925
				Over \$200	\$100	Under \$100	\$100	
Gilfillan trust fund..	319	\$16,769.49	\$52.56	1	15	21	282	\$ 154.57
Elliot trust fund....	6	593.00	99.16	..	3	3	..	2,243.99
Ludden trust fund...	53	3,528.00	64.15	..	2	9	44	3,877.09
Ludden estate fund..	26	1,421.00	54.65	..	2	2	22	736.90
Ludden real estate fund .....	216	11,897.45	55.08	..	12	17	187	1,352.22
Caleb Dorr loan fund..	12	673.00	56.25	..	..	..	12	606.12
Cosmopolitan Club loan fund .....	3	250.00	83.33	..	..	2	1	105.27
Law Alumni loan fund	11	827.00	75.18	1	..	3	7	3.36
F. D. Lindquist loan fund .....	4	150.00	37.50	..	..	..	4	375.20
Juniata Shepperd loan fund .....	1	50.00	50.00	..	..	..	1	158.74
Total of 1924-25..	653	\$36,162.85	\$55.38	2	34	57	560	\$9,613.46
Total of 1923-24..	552	\$28,657.16	\$51.92	7	20	49	476	\$9,576.34

BUILDINGS AND GROUNDS

SIGNIFICANT ADDITIONS, NEW BUILDINGS, AND REMODELED BUILDINGS

I. MAIN CAMPUS

Under the will of the late Caleb Dorr certain down town property, valued at \$60,000, reverted to the University. This property is leased for five years. W. H. Eustis has given to the University four-fifths interest in the Flour and Corn Exchange

properties which he continues to manage. The Administration building was occupied the latter part of June, 1925. The vacation of the old Library building by the administrative offices made available additional space for classroom purposes, the remodeling costing approximately \$5,600. The Mechanic Arts building has been remodeled at an approximate cost of \$4,500. The Motley School property was purchased for \$42,500 and the Motley School building sold for \$1,100. An addition to the heating plant was constructed, including mechanical equipment, amounting to \$125,000. A new greenhouse was constructed behind the hospital group on the river bank at a cost of \$32,000. An addition to the Minnesota Union was built at a cost of \$50,000 to house the Campus Club until the space is needed for student use. One hundred fifty thousand dollars was provided for the completion of certain quarters in the stadium for the Department of Physical Education and Athletics. By the removal of a portion of the brick wall on Northrop field, the athletic field has been expanded. The Todd and Christian hospitals have been completed. A tract of land near the university heating plant was exchanged with the Great Northern Railway Company for a similar tract from the University. Northrop Cottage and the Campus Club house have been relocated and are now being used as dormitories for girls. Purchases of property adjacent to the campus, amounting to \$67,000, have been made. Sanford Hall has been altered at a cost of \$13,500, making it possible to house twenty-eight more students. Provision has been made for an addition to the Experimental Engineering building for a highway laboratory, costing \$70,000. Plans have been requested for a Botany building to cost \$225,000 and for a Physics building to cost \$450,000. Three hundred thousand dollars from the Comprehensive Building Plan Fund has been pledged to the Greater University Corporation for the proposed auditorium. Church Street between Washington Avenue and University Avenue Southeast is to be paved at once.

## 2. DEPARTMENT OF AGRICULTURE CAMPUS

The main building at Grand Rapids is being constructed at a cost of \$80,000. One hundred twenty acres at Cloquet have been purchased for \$3,300 for the Division of Forestry; \$17,600 has been expended for the remodeling of the old Dairy building;

\$13,000 has been provided for the completion of the third floor of the new Dairy building. Forty-three and one-third acres adjacent to the University Farm campus have been purchased for \$30,333. Sixty-one and seventy-five hundredths acres at \$9,262 have been purchased at Morris for the West Central School and Experiment Station. A cottage has been built at Zumbra Heights Fruit Breeding Station for \$500. The old farm house on the University Farm campus has been remodeled with an expenditure of \$5,800. The campus roads at the Northwest School and Experiment Station, Crookston, are being paved at a cost of \$26,000. A Health Service building at Crookston has been provided for with an outlay of \$27,000. Plans are being considered for a dormitory at Morris to cost \$75,000. A dormitory and dining hall at Grand Rapids are under consideration.

### GIFTS

During the past year the University has been the recipient of a number of gifts in the way of prizes, scholarships, fellowships, books, etc. These include the following:

#### CASH GIFTS

- \$500,000 Four-fifths interest in Flour and Corn Exchange properties from W. H. Eustis for the Minnesota Hospital and Home for Crippled Children. This is part of the million-dollar gift from Mr. Eustis.
- 250,000 Laura Spelman Rockefeller Memorial for an institute of child welfare. This work is now under way and is to continue for five years.
- 60,000 And \$6,953 additional property acquired under the will of Caleb Dorr. This property was originally left to the city of Minneapolis upon certain conditions which were not fulfilled. Under the will the property reverted to the University. The gift is for the Department of Agriculture, including the schools, for loans, scholarships, and prizes.
- 4,000 A year for two years from the American Cyanamid Company for an industrial fellowship for the purpose of investigating the effect of cyanamid in reducing the losses from plant diseases and weeds and to study the effect of ammo-phos in reducing losses from plant diseases.
- 300 From the St. Louis County Club to continue garden crop experiments at Fens, Minnesota.
- 50 Scholarship in Home Economics from the College Home Economics Association.

- \$ 100 From the Play Production Class of 1924 for the Ariel Macnaughton Play Production Class Fund. This fund is available for loans for any dramatic purpose.
- 4,179.63 From the Fellowship Association of the University of Minnesota which was incorporated in 1888. The income from this fund is for fellowships in the Graduate School.
- 1,000 From Edith Lee Horton for the Horton Art Scholarship and Loan Fund. The income from this fund is available for scholarships or loans for art students.
- 1,000 From the Corn Products Refining Company to the Division of Dairy Husbandry for an experiment on the use of cerelese in the manufacture of ice cream.
- 2,000 From the Charles Lathrop Pack Foundation, the income to be available for two prizes in Forestry.
- 1,531 From the Minnesota Garden Flower Society for the LeRoy Cady Memorial Fund. The income is available for scholarships, loans, and prizes in Horticulture.
- 40 From the American Society of Civil Engineers for two prizes in Civil Engineering.
- 500 For the Minnesota State Organization for Public Health Nursing Loan Fund. This fund is available for loans to students in Public Health Nursing.
- 500 For the F. D. Lindquist loan fund. This fund is available for loans to students in the School of Business.
- 208 For the Juniata Shepperd loan fund. This fund is available for students in Home Economics.
- 1,000 For the Samuel B. Green scholarship and loan fund in forestry from Mrs. Alice H. Green. This fund is available for loans to students in Forestry.
- 500 From the International Live Stock Exposition. Two scholarships of \$250 each were administered by the University from the International Live Stock Exposition for the Pullman Company.
- 200 To establish the Professional Sorority Council Fund. This fund is available for loans to girls in colleges represented by the council.
- 50 From the American Society of Mechanical Engineers for an annual cash prize in Mechanical Engineering.
- 50 For annual scholarship from the Everywoman Progressive Council for colored students.
- 50 From the District Grand Lodge No. 6 Independent Order B'Nai Brith for the purchase of books on Jewish religion.
- 100 From the *Minneapolis Journal* for a prize for a high school contest on the minimum essentials of English.
- 4,000 For the Cloquet wood fiber fellowship fund in Agricultural Biochemistry for industrial fellowships in the fundamental chemistry of wood products.

- 200 From the American Dental Association to the Department of Bacteriology for the promotion of research or in dentistry.
- 25 For two annual cash prizes from William A. French for seniors for design competition in interior decoration.
- 8,000 From the National Research Council to continue studies being made at the University of Minnesota.
- 100 For prizes in Forestry for 1924 from the Charles Lathrop Pack Foundation.

### BOOKS

- From 299 donors, 1,085 gifts to the Library, including funds from F. K. Butters for the binding of 27 volumes of *Science*.
- From 764 donors, 2,766 gifts to the Library.
- Books from Mrs. John E. Granrud.
- From 172 donors, 1,307 gifts to the Library.
- Library of the late Dr. Julius Parker Sedgwick.

### MISCELLANEOUS

- Set of velour stage curtains for the auditorium at the Northwest School and Station from the classes of 1923 and 1924 of that school.
- Fertilizer attachment for a corn planter to Division of Soils from Deere and Webber Company.
- Seventy-six specimens of *Aristida* for the herbarium of the Department of Botany from A. S. Hitchcock, systematic agristologist of the United States Department of Agriculture.
- WLAG radio broadcasting station.
- One thousand one hundred volumes of American newspapers from the Minnesota Historical Society.
- A No. 6 Deister-Overstrom Diagonal-Deck concentrator table from the Deister Concentrator Company to the School of Mines.
- The E. W. D. Holway Herbarium of Plant Rusts and the E. W. D. Holway Mycological Library from Mrs. E. W. D. Holway.

### GENERAL INTERESTS

#### I. GENERAL EDUCATION BOARD GIFT

The General Education Board of New York City has offered to the University of Minnesota \$1,250,000 on a \$3,600,000 program for the development of medical education at the University. This offer of the General Education Board is in response to a program developed by the representatives of the Medical School of the University. This program involved the completion of the various laboratories in the Medical School and the erection of additional hospital facilities and also the purchase of land adjacent

to the University campus for the location of the Minneapolis General Hospital later on.

It was announced nearly two years ago that the Minneapolis General Hospital would probably find it necessary to seek a new location. For a number of years now the Minneapolis General Hospital has had an arrangement with the University of Minnesota whereby the University has used its facilities for teaching purposes. This arrangement is not altogether unique as the University has a co-operative relationship with the Miller Hospital in St. Paul, and the Northern Pacific Hospital. It was clear to the University and to the General Hospital authorities in case the Minneapolis General Hospital found it necessary to remove to some remote part of the city, that the difficulty of continuing the relationship would be greatly increased. It was also recognized by the administrative authorities of the Minneapolis General Hospital that a teaching hospital is the most efficient kind of hospital. In view of these facts and considerations, the Board of Public Welfare under whose control the General Hospital now is, joined with the regents of the University in presenting a series of resolutions to the General Education Board of New York City asking for a generous gift for the development of this entire program.

So far as the University is concerned in case it is possible for the plan to be consummated, the following buildings with the approximate costs indicated below will be erected:

Women's Hospital unit.....	\$450,000
Psychopathic unit .....	200,000
Pediatric unit .....	200,000
General Medicine and Surgery.....	250,000
Hospital laboratories .....	150,000
New unit to the Anatomy building.....	450,000
New unit to Millard Hall .....	300,000
Nurses building .....	450,000
Out Patient unit .....	250,000
Service building .....	250,000

When these buildings have been erected, the University will then have upon the campus about 580 hospital beds. These beds will be open to patients from every part of the state.

The necessity of making great improvements and advances in our Medical School situation is far more pressing than most

of us realize. The Medical School at the University of Minnesota which ten years ago had superior facilities and better provision for medical study in hospitals, than the University of Illinois, Iowa, Wisconsin, and Michigan, is now falling behind these medical schools. Minnesota has a choice of taking advantage of an opportunity of developing to full stature—a chance which may never come again—or of remaining a small medical school of high caliber but without the facilities which ought to fulfil the inevitable demands on it as a center of medical education in the great Northwest. Illinois, Iowa, and Wisconsin, supported by an awakened public opinion and strengthened by state laws which send patients to their hospitals in numbers that give students every opportunity for observation, are each on the crest of a wave in development. Michigan, the oldest and best established of the big western medical schools, has recently been carrying on a program replacing and expanding its physical plant that will insure its position for as long as need be considered.

None of the medical schools just named has an opportunity superior—if equal—to that of Minnesota if Minnesota is permitted to carry out the program announced last year and if the city of Minneapolis establishes a General Hospital at the point adjacent to the campus in accordance with the program outlined and presented to the General Education Board.

The Medical School of the University of Iowa is now engaged on a new building program of \$4,500,000 which will make its plans complete in hospital and laboratory facilities. The Public Welfare Commission of the State of Illinois is completing a series of splendid new hospitals in Chicago next to the University of Illinois, next to which the University of Illinois is erecting the laboratory and administration buildings which will give its medical school all the facilities it needs. Wisconsin, which heretofore has offered only the pre-medical years of medicine, the third and fourth years of a seven-year course, is finishing a hospital which will enable it to expand into a complete medical school. Michigan, long established, has completed at Ann Arbor a hospital that cost alone \$5,000,000. To this development new laboratories and other needed buildings are to be added.

Under favorable state laws, Iowa has hospitals at the University of Iowa to care for children's, especially orthopedic, cases

and also to care for adults. The state pays the entire cost of hospitalizing these patients yielding such an annual income for hospital maintenance as to assure the upkeep of these hospitals. Under the Minnesota law, the state and the counties divide the cost of sending patients to the University Hospital. We can eventually reach a basis as favorable as Iowa.

The University of Illinois some years ago took over what remained of the plant of the College of Physicians and Surgeons in Chicago—a private establishment operated for profit. Later the state purchased the old West Side Baseball Park and the Public Welfare Commission constructed there without cost to the university, a children's hospital, an eye and ear hospital, a psychopathic hospital, and a general hospital. The university is now erecting medical buildings on the same tracts and is spending about \$3,000,000 for these, exclusive of the hospitals built by the state. The state of Illinois has turned these hospitals over to the Medical School to be operated by its faculty so the hospitals are supported by the state while education and research are supported by the university.

Wisconsin has developed its medical school so that it is just now beginning to offer a full course. The growing congestion in medical education making it difficult for men who take pre-medical work in one place to get into another school to complete their training has been a factor in bringing this development to pass. Wisconsin began with an excellent Students Health Service where the work was done by men in the medical school who also did some minor instruction in the clinical field. In addition to its health service hospital and one smaller hospital, Wisconsin has built a General Hospital at the Medical School and the legislature has passed a law sending state patients there.

When the Michigan legislature gave the university its \$3,000,000 to expand its medical plan, the university spent it all on the exterior of the hospital. This sum was later supplemented by the legislature with \$2,000,000 so that the new hospital alone would cost \$5,000,000.

Laboratories for the clinical study of medical sciences and hospitals, which are the laboratories in which the students observe the treatment of patients by the experts on the faculty, are the twin bases of medical education. Minnesota has an excellent



foundation in both laboratories and hospitals. She has also a splendid faculty. In this way she has a great advantage over many schools that get buildings first and a fine faculty later. It is essential now that the program of enlargement be carried out so that medical education at Minnesota may take the place in the national program to which its past history entitles it.

One who is not familiar with the development of medical education can scarcely appreciate the importance of carrying this program to its fulfillment. Minnesota is lagging behind in the matter of medical education, largely because it has not secured the funds necessary for the promotion of its program. Altho medical education is expensive, after all what is more precious than human life itself? How can money be spent to better advantage than in training men and women who are to minister to the sick and to the suffering, especially when one considers how much human comfort, human happiness, and health such training may return to the people of the state.

The announcement of the General Education Board gift was made on December 9, 1924. The meeting was attended by certain representatives of the Board of Regents, representatives of the Board of Public Welfare, the mayor, a special committee which he had appointed to consider the problems of the Minneapolis General Hospital, representatives of the press, and representatives of the Civic and Commerce Association of Minneapolis and St. Paul. It was assumed that inasmuch as the Board of Public Welfare and the regents of the University had joined in their resolution to the General Education Board requesting a gift of money for a specific program which had been fully discussed before the resolutions were prepared and presented, that the announcement of the gift would be received with favor and steps would be taken at once to carry the program into effect. Now as I write this report much later, I must announce that the Board of Public Welfare of the City of Minneapolis has failed to concur in its original act. Opposition to the program as originally outlined, has been raised by certain persons and in certain quarters. The program of course can only succeed by the co-operation of all concerned, that is, the representatives of the city and of the University. Success depends upon goodwill, mutual understanding, and a willingness to co-operate. That the plan as outlined

would be of great advantage to the city and to the state; that it would provide better doctors and better nurses; that it would provide far better medical and surgical care for the patients who come to the hospital, is generally admitted by those who have made a careful study of it. For this plan to fail means ultimately an enormous loss in health, comfort, happiness, and satisfaction of the people in Minneapolis and the citizens of Minnesota.

## 2. THE EUSTIS SUPPLEMENTARY GIFT

During the year Mr. William Henry Eustis made further provision for carrying out his plans for the treatment of crippled children. No extra time need be taken in attempting to describe the spirit of this gift. The generous purposes which influenced the donor, as well as the magnanimous plan for the administration of the gift, are clearly set forth in a letter which was filed with Mr. Fred B. Snyder on December 22, 1924. The letter reads as follows:

December 22, 1924.

Hon. Fred B. Snyder,  
President of the Board of Regents,  
University of Minnesota,  
Minneapolis, Minnesota.

Dear Sir:

I have this day deeded to the University of Minnesota an undivided four-fifths interest in the Flour and Corn Exchange properties, being all my holdings therein, which, with the properties real and personal previously transferred to it, is in full of my pledge of June 14th, 1923, of \$1,000,000 for the well-being of needy crippled children. All of said property, except the site of 44 acres, being income bearing, the value of which, including the net income thereon to July 1st, 1927, as provided by the terms of said pledge, should amount to, at least, the sum of \$1,500,000. I will continue to manage the property, as now, so long as my health permits, without financial consideration. In my judgment it would seem wise to let all the income be added to the principal of the trust until, at least, July 1st, 1927.

In the meantime a careful study should be made of the Convalescent Home. This is a modern, humane thought, and if rightly planned, and carried out, it will be endowed with great possibilities of good to its patrons. It should be made the main and striking feature of the trust. Advantage should be taken of all that experience has taught others, rather than to learn these lessons by failures. As a rule a few weeks at the hospital will suffice, while at the Home months and years will be needed for the correction of physical defects, supplemented by both a general

education and special learning, in useful trades, or arts, that will best fit them for self-supporting and happy lives. Here is where the major part of the funds should be used. Make haste slowly, and no mistakes, would seem to be the correct policy.

I have recently learned that the General Education Board of New York City has offered the University \$1,250,000 on a \$3,600,000 program for the development of its medical laboratories and hospitals. To secure the General Education Board gift, \$2,350,000 must be raised from local sources. The development of this program, for medical education and hospital care, is a matter of vast importance to the welfare and happiness of the people of the State. In the long run it will touch every home. It will affect not only those whose course is nearly finished, but also those in the more active years of life, and it will minister to the needs of children, including crippled children. It is my wish and desire that such part of this additional gift, in excess of the original \$1,000,000 pledge of June 14, 1923, which shall be in the possession of the University on July 1, 1927, may, in accordance with the terms of the gift, and in the discretion of the Board of Regents, be considered as a part of the allotment the University is required to raise in matching the \$1,250,000 offered by the General Education Board, and may be used for that purpose.

My original pledge and the supplementary gift made at this time have been on the assumption that they will be used perpetually for the purposes for which they were made, namely, for the well-being of needy crippled children. It is, however, clearly recognized that no human being can fathom the future or prophesy events that may happen years or generations hence. No one knows what progress science may make in curing or alleviating certain kinds of human ailments and diseases. No one knows what generous gifts may be given at some future date by persons, foundations, associations or organizations for the care of needy crippled children. I, indeed, hope, as expressed in my original pledge, that others might feel like lending a helping hand for the crippled children and provide additional funds for the Minnesota Hospital and Home for Crippled Children.

It is, therefore, conceivable that the time may come when the University will actually have in its possession more funds than are actually needed to provide the best care possible for all needy crippled children who may be entrusted to its charge. Should such a fortunate day arrive, the Board of Regents of the University of Minnesota by unanimous vote shall have the authority in its discretion to use such part of the funds provided by my original pledge and the supplementary gift as it may deem necessary and proper, to investigate the diseases of childhood and their alleviation and cure, or in any way that will promote the functions and the purposes of the University, which is dedicated to the service and enlightenment of mankind.

Very truly yours,

WM. H. EUSTIS.

### 3. LAYING OF THE CORNER STONES OF THE CANCER AND TODD MEMORIAL HOSPITAL UNITS

The most significant event of a decade in the development of medical education at Minnesota was the laying of the corner stones to the two new hospital units—the Cancer and Todd Memorial—on October 1, 1924. The cancer unit is a gift of the Citizens Aid Society of Minneapolis and the Todd Memorial unit is partly the gift of Mrs. Todd, Mrs. Gale, and Mrs. Mapes.

Twelve years earlier the Elliot Memorial Hospital had been dedicated. It was made possible by a gift of \$120,000 by the heirs of Dr. Adolphus F. Elliot, a \$40,000 appropriation by the state, and a \$42,000 gift by a group of leading citizens of Minneapolis for the purchase of the site.

The erection of the Elliot Hospital was a great stimulus to medical education at Minnesota and in the Northwest. It meant improved facilities, increased interest, better teaching, more attention and care for the sick, and a closer study of their needs and problems. No one can measure in words the value of this hospital to the University or to the thousands who since its establishment have been patients in it. No one can estimate the satisfaction, comfort, and better health of thousands of others who have shared indirectly in its benefits. Its erection marked a new era in the history of medical education at Minnesota.

Another era was begun when Dr. Will and Dr. Charles Mayo gave to the University of Minnesota \$1,500,000 with the understanding that the interest from this endowment would be converted back into principal until the total reached \$2,000,000 and with the further understanding that the income would be devoted thereafter perpetually to research in the fields of medicine and surgery. Two years ago this magnificent gift with its accumulated earnings reached the sum of \$2,090,000 which means that the University has annually from this source alone more than \$700,000 for the study of problems relating to human health. Altho the Mayo Foundation has been in existence since 1915, from the very beginning the Mayo Clinic has contributed out of its resources between \$200,000 and \$300,000 a year to the Foundation for the scientific study of human diseases. Today we are spending approximately \$350,000 a year which is the income from the Mayo Foundation and the annual gift of the Mayo

Clinic to maintain graduate work in medicine and surgery at the University of Minnesota. In this respect Minnesota is unparalleled among the medical schools of the world.

This money is used to pay the salaries of members of the staff and to provide stipends for scholars in the fields of medicine and surgery. These scholars come from every part of the world. They are most carefully selected. Most of those coming to us from foreign countries return to their home countries after their course is completed. Thus the benefits of medical education at Minnesota are distributed throughout the wide world. This is as it should be. It keeps us from becoming narrow, provincial, and selfish. We conceive it our Christian duty to relieve suffering and to cure the sick wherever they may be found. The usefulness of the products of medical science are not, and should not be, limited by geographical boundaries, periods of time, or racial prejudices. The contributions of science belong to the world and should be used in the interest of humanity.

For twelve years Elliot Hospital stood alone. Then, we celebrated the laying of the corner stones of two new hospital units—one, made possible by the gifts of Mrs. Todd, Mrs. Gale, and Mrs. Mapes, supplemented by certain funds of the University, to be devoted to the diseases of eye, ear, nose, and throat, and the other to the study of cancer. The latter unit was made possible by a gift of \$250,000 from the Citizens' Aid Society which was founded by Mr. George Chase Christian, a distinguished resident of the city of Minneapolis. These two new hospital units mark another new step in the development of medical education at Minnesota. They will be modern in every respect, commodiously equipped, and properly staffed. The co-operation and assistance of the School of Nursing and of experts in every field on the medical staff will be utilized in the administration and operation of the new units. Under the terms of gift these two new units become an integral part of the general hospital system of the University. The beds will be used in one case for the eye, ear, nose, and throat patients, and in the other case for cancer sufferers, but if the beds are not filled with such patients they may be utilized by others who are suffering from some kind of human affliction, and are in need of treatment.

These hospitals, which are constructed and should be used, it must be said emphatically, primarily in the interests of the patients, are erected in order that we may here, at this center, train men for the practice of medicine and surgery and women to engage in the noble calling of nursing. These hospitals are also constructed in order that experts upon our staff may study cancer and the diseases of the eye, ear, nose, and throat, devise new methods of treatment, and discover, if possible, new cures. Our first job is to see that patients receive such treatment and consideration as their cases deserve.

In the last twelve years there has been given to the University approximately \$3,600,000 for the encouragement and maintenance of medical education. The state of Minnesota now contributes more than \$400,000 a year for the support of this school. In other words, private capital is engaged in a great co-operative enterprise with the state in providing for the study of human diseases and the training of doctors and nurses. This is as it should be. There is no type of education more expensive. It requires expensive laboratories and hospitals.

While no other state university has been the recipient of such magnificent gifts from its citizens, it should be remembered that the medical schools of Yale, Harvard, Hopkins, Columbia, Chicago, and Stanford receive no support whatsoever from the state. They have been founded by private donors and are supported by private gifts and fees. Where we have such co-operation as exists at Minnesota, if it may be continued, it should be possible for us to provide facilities, inviting conditions for work, and a staff of such skill as would be second to none throughout the world. To do this, other gifts must be made in the future, for our hospital system is not nearly complete. There must be endowments for beds, for special research projects, for the purchase of library and laboratory materials, for the dissemination of knowledge concerning the cure and treatment of various diseases, and for support. I believe if we keep constantly before us the justification for the existence of these buildings, that this dream may ultimately be realized.

#### 4. HONORARY DEGREES

At various times since the establishment of the University, the question has been raised whether honorary degrees should be

granted and without exception, the University has declined to do so. During the year I was requested to make a survey of the practice of other institutions relative to this matter and to report on it to the Board of Regents. Information was requested of a number of representative institutions. Of those of whom inquiries were made the following grant honorary degrees: Amherst, California, Carleton College, Chicago, Columbia, Dartmouth, Harvard, Indiana, Iowa, Michigan, Oberlin, Princeton, Wisconsin, and Yale. The following do not grant honorary degrees: Cornell, Illinois, Ohio, and Stanford.

The general practice of the institutions which grant such degrees is very conservative as to the number given in any one year. Usually the number is limited to two or three. Some institutions may grant more, for example, Dartmouth limited the number to ten in any one year and Yale to fifteen.

The responsibility for recommending those selected for the degree resides, as a rule, in most institutions, in an honorary degree committee consisting of three members of the Board of Trustees and three members of the faculty with the president in his capacity as a member of both. While the degree giving power is unquestionably in the hands of the trustees, the trustees on the other hand are usually very receptive to any arrangement which divides the responsibility.

The degrees are conferred upon those who have achieved distinction in scholarship or public service. The conditions for the awarding of such degrees are as clearly defined at Columbia as at any of the institutions: To receive an honorary degree from Columbia, one must be (a) an author of some original work of such character as to leave no doubt as to his learning, his attainment, and literary ability as a writer. (b) In addition to (a) he must hold an honorable position in some university or college either in this country or abroad. And (c) he must be a man of acknowledged eminence in art, literature, or science, or in the professions of theology, law, or medicine or in public service who has contributed by his services to the advancement of art, literature, or science.

The presidents of the institutions were invited to give their opinions as to whether they would recommend the granting of honorary degrees now in the light of their experience in case they were placed in an institution which did not grant them. They

were also asked to state what they regraded as some of the chief dangers arising from the granting of such degrees. While we are not privileged to quote by name from the letters we received, the comments of the heads of these institutions in answer to these questions are of interest and importance. A few of these statements are incorporated herewith because of the light which they shed on the general situation.

"We have endeavored, however, pretty definitely to lean over backwards in the matter of not giving degrees where the obvious and largest reason for giving them was purely the hope of some material benefit to the college, though needless to say, we have no objection to this possibility if all the other factors represented in the degrees are conserved."

"It is, of course, possible to see the incongruities, occasional pettiness, and the rather flagrant materialism, to say nothing of the inappropriateness which attaches not infrequently to the award of honorary degrees among a number of our American colleges and universities. Nevertheless, I believe that if a list of the degrees given by, say, our fifty foremost institutions were examined, it would appear that the basis of award was a reasonably good one. We have no patent of nobility in this country, and the honorary degree of a reputable college or university seems to be the nearest thing of the kind available. I can testify from personal experience that leaders in the fields of industry, statesmanship or in the professions welcome such an award. All this being so, it seems to me on the whole not only a rather desirable, but a rather advantageous thing, that the colleges and universities should assume this responsibility and should exercise it carefully.

"I should advocate the practice of awarding honorary degrees but insist on an even greater limitation than perhaps we have here today where we limit the number to three degrees each year."

"In the light of my observation and experience, if I were president of the university which had not been granting honorary degrees, I would be strongly disposed to inaugurate the system under the limitations which exist in the university here."

"I see no reason why the University of Minnesota should not grant honorary degrees. It is a legitimate way of making friends for the university, and, on the other hand, it confers well merited recognition upon the recipients when such degrees are granted with care."

"I will say that we are reasonably well satisfied with the procedure which we have followed. The statute of the university governing this procedure is as follows: The honorary degrees of Doctor of Divinity, Doctor of Music, Doctor of Laws, Doctor of Science, Doctor of Humane Letters are conferred upon the recommendation of the University Senate. These degrees are granted only for specific achievements in such fields as scholarship, discovery or administration. At the convocation ceremony



the president recites the specific ground upon which these degrees are conferred and the recipients are present in person."

"I think, all things considered, that when cautiously administered, the practice of granting a few honorary degrees is more advantageous than disadvantageous. There are occasions when it is not only appropriate, but desirable that some such generally recognized academic decoration should be conferred, and, when the mode of determining the recipient is carefully safeguarded, I see no great dangers. I appreciate naturally, the inevitable embarrassment that annually ensues when selections come up for discussion but if the principles of selection are carefully made and adhered to, it is not particularly difficult." This from a president of an institution that does not grant honorary degrees.

"When the question of having honorary degrees was discussed at the Association of American Universities I remarked that the practice seemed on the whole to add to some human happiness." This from the president of one of the oldest, most distinguished universities.

"This institution grants honorary degrees. The process is something like this: Any faculty may nominate candidates in fields allied with its own. These nominations are brought to the Senate Council, which is the Executive Committee of the University Senate, by the various faculty representatives thereon. Through a committee, the Senate Council considers the qualifications of these candidates and draws up a list which is recommended to the Board of Regents. The honorary degrees are finally voted upon by the Board of Regents. The qualifications which we take into consideration are, ordinarily, achievement in work. In answer to the question as to whether or not we would introduce the granting of honorary degrees in case this institution had not established this as a practice or policy, I answer 'yes' with the limitation that the recommendations for honorary degrees should always originate with the faculty, and that the Regents or Trustees should decline to have anything to do with them."

"I am inclined to think that the policy of a moderate granting of degrees is a good one. It gives opportunity to honor truly distinguished men and to furnish another rather vital link between the institution and its alumni. The main danger, of course, is in the direction of over generosity."

"Twice this question has come up for discussion and in both instances the faculty has declined to proceed. Years ago certain unfortunate influences got into the Board of Trustees or the faculty or somewhere and until all the people are dead who either received the degrees or participated in granting them, or remember them, the chances are our faculty will rest on its oars, the general assumption being that we lack the moral courage to discriminate."

"On the whole, I feel that the granting of honorary degrees is of advantage to any university. Our degrees are given at our commencement time and the men whom we bring here to be honored by the university produce a very deep impression upon our graduating class."

"I think that if a plan can be worked out by which the degrees are granted upon the authority of the university faculty or of a committee made up of university faculty and that a few Regents or Trustees there is a chance that the granting of honorary degrees may be done with benefit to all concerned." This is a quotation from one of the institutions which does not grant honorary degrees.

"So far as our experience goes, I regard the granting of honorary degrees as an advantage to the institution. It lends an additional touch to the ceremonies of commencement and is an addition which is welcome to the audience. It gives an opportunity for recognition of distinction in academic and other matters. I am so used to the situation that I find it difficult to say what I would do if the university had never granted the degrees but I should certainly not think of proposing the abolition of the custom here."

"If I were going to a new institution I should regard the decision to give no honorary degrees as freeing the administration from a very embarrassing problem and, in the case of a new institution, I think I should probably urge that it give none for some such period as 25 years. The older institutions have a certain pressure put upon them which is perhaps legitimate and their recognition in the form of degrees carries with it a type of reward for important public or scientific service, that has, I believe, some fundamental social justification."

HONORARY DEGREE OF LL.D. CONFERRED UPON  
WILLIAM WATTS FOLWELL

After careful and thoro consideration of the whole matter, the regents decided to break a custom of more than fifty years standing, and upon the recommendation of the administrative committee of the Senate, approved unanimously the conferring of an honorary degree upon Dr. William Watts Folwell. The address made by the president of the University presenting Dr. Folwell for this degree, was:

The University of Minnesota is now about to break a custom of fifty-six years standing. Fifty-six years ago she opened her doors for college students and fifty-two years ago, that is in 1873, she graduated her first class of two students. Since that time this institution has declined to grant honorary degrees. But there comes a time in the life of an institution, as well as in the lives of men when practices should be changed and customs modified if progress is to be made. Adherence to custom may be the hall mark of safety, but if too long held to, it may become the mark of decadence.

One of the chief characteristics of an educational institution is that it moves forward making its adjustments and changing its practices in conformity to new demands, new needs, and new causes. Minnesota is an educational institution. She will not stand still. She expects to im-

prove with each succeeding year and generation. She proposes to recognize men and to bestow honor upon those who deserve such recognition.

She proposes to do this today by conferring an honorary degree. She is not interested in conferring the degree merely for the sake of conferring it. She has a far nobler and worthier motive. She believes that it is one of the primary duties of a university to give recognition to, and to bestow honor upon, scientists, scholars, and other persons who have achieved distinction in public service. This is one of the great privileges, as well as one of the high functions of an educational institution. Science, scholarship, service to mankind, belongs to no age or country. They transcend time and space. They are the immortal inheritances which one generation passes on to another. Those who are responsible for contributions to science or to knowledge, or who by gifted teaching are at once an inspiration and stimulation to student minds, or who by virtue of other rare qualities, perform some unusual service to mankind, often pass away unawarded and unrecognized. The danger of this is great in a democracy.

Minnesota would exalt these qualities and particularly so when she has in her midst one who for fifty-six years has been the living embodiment of them.

How fortunate it is that we have with us a man who since the beginning of this University has been her educational seer, whose vision and imagination concerning the development and usefulness of the University has reached far beyond the limits of the vision and imagination of most of us. First president of this University, master teacher, distinguished scholar, faithful public servant, his name is indelibly associated with this University, with the development of this state, and with the educational program of this nation. In honoring him we honor ourselves.

We seek the high privilege of expressing to him in some small measure the high esteem in which we hold him. We know that he is one of us in spirit, in the aspiration, and in hopes he has for this University, which in many respects is his own child. But we wish him to be one of us in name.

It becomes my pleasant duty on behalf of the University Senate, as represented by its administrative committee, and on behalf of the Board of Regents, to recommend to you, Mr. President of the Board of Regents, Mr. William Watts Folwell for the honorary degree of Doctor of Laws.

Mr. Snyder's remarks in conferring the degree were:

Dr. Folwell, how strange are the things wrought in the crucible of time. Forty-four years ago, the University by your hand gave me a diploma. Now that institution by my hand is to give a diploma to you. Mine was for work done. Yours is in recognition of a long life spent in unselfish devotion to the things which make for a better and higher civilization. It expresses the belief that you have by your works builded in the Northwest a monument for yourself which will outlast anything which may be said in stone and bronze after you are gone.

Phidias chiseled in cold marble refined and exquisite statues which at this late day are monuments to his genius. Sir Christopher Wren still

lives in his monumental St. Paul's Cathedral. But these are material things. If one should seek your monument let him look to the lawyers, law makers, judges and officers of state, physicians, surgeons and savants of every class, preachers, missionaries, teachers and research workers, the business man, artizan and engineer, and the mother in the home, and know that these who make and mould our civilization, are, in a heaping measure, the fruit of your genius in laying broad and wide the foundation of this University. Let him also follow your work to make Minneapolis a paradise of parks; let him seek you out in your garden with your pruning shears and rake; let him acquaint himself with your simple, wholesome home life; let him study you as a teacher and historian; let him know you as I have known you since college days, as a Christian gentleman, pure of heart, serene of mind, modest and gentle in deportment, independent of thought and persuasive of speech—then it will be proclaimed that monuments built of stone and bronze are material, transient and manlike, but monuments such as you have builded for yourself are of the spirit—spiritual and Godlike—and will go on in strength and development for all time.

Dr. William Watts Folwell, first president of the University of Minnesota, and President-Emeritus:

The Board of Regents has never before granted an honorary degree. You are the first to be thus signally honored. You are alone of your class.

In recognition of your distinguished achievements and attainments, the Board of Regents of the University does this day confer upon you the honorary degree of Doctor of Laws with all the rights, honors, and privileges pertaining to that degree here and elsewhere.

As evidence of this degree, I have, Sir, the honor of handing you this diploma and investing you with this hood.

##### 5. THE CONSTRUCTION OF PLAY SPACE UNDER THE MEMORIAL STADIUM

No other need in the University is more fundamental than the maintenance among the students of a state of perfect health. Progress in their studies depends upon the physical vigor of the students. To maintain sound bodies, students need facilities for physical exercise. The men's gymnasium is scheduled for use until eleven o'clock at night, and yet the opportunity for recreation and exercise is very inadequate.

Realizing the great need of more play space, and realizing also that much more space per unit of cost could be obtained by utilizing the space under the stadium seats than in any other way, the Board of Regents at its meeting on February 18, 1925, voted to

authorize the carrying out of plans previously submitted for making use of that space. At a cost of less than \$100,000, when the work shall have been completed, there will be made:

10 handball courts, 19 ft. by 30 ft.

4 squash ball courts, 19 ft. by 40 ft.

1 orthopedic gymnastics room, 30 ft. by 120 ft.

1 boxing and wrestling room, 30 ft. by 120 ft.

2 shower bath rooms 20 ft. by 30 ft.

Additional space will be available when needed for additional toilets and showers, and for the placing of as many as 6,000 lockers.

These facilities will greatly relieve the congestion in the intramural sports and informal play by the students and faculty.

#### 6. THE CHILDREN'S CRUSADE

*The Children's Crusade*, a musical legend in four parts by Gabriel Pierne, was performed in the Armory, Saturday evening, May 23. This performance was planned for Memorial Stadium, and was to have been the first annual musical event too large to be given indoors. Extremely cold weather and rain made necessary the change to the Armory.

The University Choral Society, the University Choir, a chorus of four hundred children from the Minneapolis Public Schools, the Rys-Herbert Male Chorus, and the Minneapolis Symphony Orchestra were the organizations taking part. The soloists were Marie Tiffany, soprano from the Metropolitan Opera Company, Margery Maxwell, soprano from the Chicago Opera Company, Forrest Lamont, tenor from the same company, Hazel Catur, soprano from the Music Department, and Raymond Koch, baritone. The performance was conducted by Professor Earle G. Killeen.

The Board of Regents agreed to assume any deficit up to the sum of one thousand dollars, but the receipts plus rain insurance made the event self-supporting.

#### 7. THE ARTHUR UPSON ROOM IN THE LIBRARY

By the generosity of an unnamed donor the University Library came into possession of furniture and books to equip one of the beauty spots of the campus. The northeast corner room of the library was set aside and has been decorated and furnished with

exquisite taste to appeal to the esthetic sense of the university students and faculty. In this room have been assembled books of general interest. Readers must leave notebooks and reference books outside when they enter the room for recreational reading.

All of this is a fitting tribute to the genius and spirit of Mr. Arthur Upson, who was formerly a member of the staff of the University of Minnesota.

#### 8. UNIVERSITY CONVOCATIONS

The policy of the University with reference to University convocations was to regard the fourth period on Thursday as a period free from classes and to be devoted to such student assemblies as the students desired. Only when some outstanding speaker or some unusual musical entertainment was available would the whole University come together for convocation. The following list, therefore, while it accounts for each of the University convocation periods, does not account for the many groups which came together on other Thursday mornings throughout the year.

- July 31—Summer Session commencement exercises; Boyd Henry Bode, professor of education, Ohio State University, "The Next Step in Education."
- October 2—Opening convocation in the stadium; Lotus D. Coffman, president of the University.
- October 23—Military convocation; Lotus D. Coffman, president of the University.
- October 30—Ray L. Wilbur, president of Stanford University, "Man's Advance As a Social Animal."
- November 6—Zona Gale, author, and member of the Board of Regents of the University of Wisconsin, "Why Write?"
- November 20—Arthur Nash, of Cincinnati, "The Golden Rule in Industry."
- December 11—Harry A. Franck, author and lecturer, "The Struggle for Power in Asia."
- December 18—Fall quarter commencement exercises; Norman Angell, author and lecturer, "Human Nature and the Management of Society."
- January 15—Yusuke Tsurumi, "American-Japanese Relations."
- January 22—Oskar Hagen, professor of art, University of Göttingen, "Art, a Universal Human Need."
- January 29—Captain Donald B. MacMillan, Arctic explorer, "My Adventures in the Far North."
- February 19—John R. Mott, general secretary, National Council Y.M.C.A., "Students and the Present World Situation."

- March 10—Legislature Day convocation; Lotus D. Coffman, president of the University; The Honorable John A. Johnson, speaker of the House; The Honorable W. I. Nolan, lieutenant-governor of the state of Minnesota and president of the Senate.
- March 19—Winter quarter commencement exercises; The Reverend Albert Parker Fitch, professor of history of religion, Carleton College, "What Is a Liberal Education?"
- March 21—The Reverend Albert Parker Fitch, professor of history of religion, "What We Mean by Education."
- April 16—The Reverend A. Bruce Curry, professor, Biblical Institute of New York City, "Life at Its Best."
- April 23—Music convocation; Walter Bloch, Maurice Katzoff, Howard M. Laramy, A. Pepinsky, Kenneth Rarig, Louis Sauter, Robert Swanson, Karl Scheurer, Clyde Stephens, Phi Mu Alpha-Sinfonia.
- May 14—Richard Burton, professor of English, University of Minnesota, "Arthur Upson and the Arthur Upson Room."
- May 21—Cap and Gown Day convocation; Bernard J. Larpenteur, president of the all-university senior class, "Presentation of the Class of 1925;" Lotus D. Coffman, president of the University, "Response."
- June 14—Baccalaureate service; The Reverend Carl Wallace Petty, pastor of the First Baptist Church, Pittsburgh, Pennsylvania.
- June 15—Commencement exercises; Theodore Christianson, governor of the state of Minnesota, "Education for Sufficiency."

Attention is called to the fact that this is the first year in which commencement exercises have been held at the close of each quarter or term of the academic year, and at the close of the first half of the Summer Session. The number of persons involved, the attendance and success and apparent necessity of these functions indicate that they have become permanent items of the university calendar.

The June commencement was unusual in that the exercises were held for the first time out of doors in the stadium. That this plan was heartily welcomed by the friends of the University is evidenced by the attendance of approximately one thousand alumni in the procession and a general attendance of approximately twelve thousand in the stands.

The committee is agreed that the exercise was too long. Certain factors were responsible for this result, the most important being the innovation itself. Other items contributing to undue length of ceremony can be eliminated so that the entire function be shortened in time by at least one hour.

The committee feels however that on the whole the change was so satisfactory that the new plan should be followed for subsequent spring commencements.

The number of candidates for each of the graduation periods is as follows :

First Summer Session, July 31, 1924.....	105
Second Summer Session, September 5, 1924 (no exercises) ..	70
Fall quarter, December 18, 1924.....	254
Winter quarter, March 19, 1925.....	134
Spring quarter, June 15, 1925.....	1,202
Total candidates for year.....	1,765

#### 9. THE GRADUATE SCHOOL LECTURESHIP FUND

Eminent scientists are brought to the University by means of the Graduate School lectureship fund. These lectures which occur generally at four-thirty o'clock in the afternoon were on the whole well attended. For some lectures the audiences surpassed the seating capacity of the Anatomy building lecture hall. Following is a list of lecturers and their subjects for the year 1924-25.

- Dr. V. H. Blackman, Imperial College of Science and Technology, London, England, "The Effect of Electric Currents on the Growth of Plants." "The Physiological Basis of Parasitism."
- Dr. A. V. Hill, University of London, "Muscular Contraction in Relation to Carbohydrate Metabolism."
- Prof. William Einthoven, University of Leyden, "The Relation of the Mechanical and Electrical Phenomena of Muscle Contraction with Special Reference to Cardiac Muscle."
- Prof. Francis O. Benedict, Carnegie Institute, Boston, Mass., "Energy Relationship in Human Metabolism."
- Prof. Eugene F. DuBois, Cornell University, "The Proportions in Which Protein Fat and Carbohydrate Are Metabolized in Disease."
- Prof. E. V. McCullom, Johns Hopkins University, "Our Present Knowledge of Vitamines."
- Prof. G. Lusk, Cornell University, "Problems in Metabolism."
- Dr. Carl Benedict, Metalographic Institute, Stockholm, Sweden, "Space and Time, The Opinion of an Experimentalist."
- Dr. Herbert M. Evans, University of California, "The Relation of Fertility to Nutrition."
- Dr. Henry L. Rietz, Iowa State University, "Better Statistical Methods."



## 10. CONCERT COURSES

Two concert courses are presented each year under the general direction of the Department of Music. Financially this work is conducted as a service enterprise maintaining itself from year to year.

Last season's program was extremely brilliant. Prices of tickets were held at the same nominal fee as usual, \$5, and \$3 for the entire series of all-star concerts in the general concert course and \$4 for the intimate chamber music course. The artists who appeared in the armory, which seats about 2,400, were Dusolina Giannini, Jascha Heifetz, Louis Graveure, Vladimir de Pachman, and the instrumental quartet: Bronislaw Huberman, Lionel Tertis, Felix Salmond, and Harold Bauer. In the chamber music hall, which seats not quite 600, appeared the Flonzaley String Quartet, the London String Quartet, and the Hinshaw Opera Company of New York in *The Marriage of Figaro*.

Owing to the spectacular type of artists and the limited capacity of the Armory, the expense of last year was, for the first time, greater than the receipts. This was anticipated and deliberately planned in order to cope with the general financial conditions. Many less brilliant courses throughout the country had to be suspended because of lack of support. To provide for just such years the small surplus of other seasons is kept as a revolving concert fund, thus insuring against any possible loss, and making it possible to maintain at all times a uniform, low price for the season ticket.

## 11. MOTHER'S AND DAD'S DAY

A state university must depend for its support upon the good will and understanding of the citizens of the state. Among these citizens none are so interested as the parents of the students who are in attendance. Their understanding of the problems of university life is essential for the proper solution of those problems. Accordingly, a custom has grown up in many state universities, including the University of Minnesota, of setting aside one day in the fall as Dad's Day and one day in the spring as Mother's Day. Effort is made on these occasions to have as many parents of the students present on the campus as possible. Minnesota

introduced the custom of Mother's Day in 1923-24 and of Dad's Day in the fall of 1924.

On the first Dad's Day, held November 15, 1924, letters of invitation had been sent to the fathers of all students by the president of the University. A return card was enclosed. Eight hundred sixteen acceptances were received and 751 Dads registered at the places of registration on the campus. These fathers came from eight different states. The program of the day was as follows:

During the morning hours Dads were registered and were taken, in company of their sons and daughters, to visit classes and to see interesting places on the campus. Many also visited the living quarters of the students. In the afternoon they went to the Minnesota-Illinois football game. At six p.m. they attended a dinner in the Minnesota Union where a brief program was carried out, including an address by the president of the University, in which the aspirations as well as the problems of the University were set forth.

On Saturday, May 9, 1925, the day preceding National Mother's Day, the second annual Mother's Day was held at the University of Minnesota. A personal invitation had been sent to the mother of every student registered in the University. The response was most enthusiastic. Many who could not come sent personal letters explaining the reasons for their absence and expressing appreciation of the University's interest in them and of the opportunity afforded to learn more at first hand of the work being done by their children. Between 1,500 and 2,000 mothers registered during the day and 1,100 sat down to the dinner given at the Minnesota Union that evening. The program for the day consisted of registration at Shevlin Hall for each mother, and the presentation of a badge. Then they accompanied their sons and daughters to their classes and to the various buildings on the campus. Transportation to the Farm campus was provided and a most delightful luncheon for the mothers and sons and daughters whose work was on that campus, was held in the Farm cafeteria. In the afternoon the Minnesota Masquers repeated its performance of *Intimate Strangers* to an audience that overflowed the Armory. Tea was served in Shevlin Hall, the Minnesota Union, and in the Music Building. The closing function of the

day was the dinner held in the Minnesota Union ballroom. The speakers were Dean Nicholson, Mrs. J. C. Brown, Dean Kelly, and Dean Blitz. The theme of all the talks was opportunities for greater co-operation between the parents and the University officials.

### STATISTICS OF REGISTRATION

*Collegiate students.*—Table I records the attendance of students of collegiate grade in courses leading to degrees. All students in this group with the exception of War Specials and those listed in the various schools and colleges as special or unclassified have been required to present for admission evidence of at least the completion of a four-year high school course or its equivalent. Students listed as War Specials are those who have been admitted in accordance with the University's agreement with the United States Veteran's Bureau without reference to entrance requirements. These students, however, together with those admitted as special and unclassified on the basis of maturity and experience are enrolled in regular collegiate classes, and constitute a part of the load of collegiate teaching. The comparison of the net grand totals for 1924-25 with those for 1923-24 shows an increase of 1,105 students or 9.5 per cent.

It should be noted, however, that for the three quarters of the academic year the increase is only 585 students, or 8.5 per cent, and that for the Summer Session, which is included in the total of all collegiate students there was an increase of 185, or 5 per cent. The unusually large apparent increase in the figures for the net grand total occurred by reason of the fact that a much smaller number of duplicates between the Summer Session and the regular year are recorded for 1924-25 than for 1923-24.

A comparison of totals for the individual colleges shows a larger numerical gain: in the College of Education, 260; in the College of Science, Literature, and the Arts, 199. The most significant of these is the gain in the College of Education, which represents an increase of 18.4 per cent. This same college increased 13.5 per cent a year ago.

Decreases in enrolment appear in the following colleges: Engineering and Architecture, 1.4 per cent; Agriculture, Forestry, and Home Economics, 4.6 per cent; Dentistry, 3.4 per cent; Mines, 25.2 per cent; and War Specials, 37.7 per cent. In the

case of the last group the loss has been due very largely to transfer to a regular student status and to the fact that comparatively few new trainees have been approved for admission as War Specials by the Veterans' Bureau.

*Collegiate enrolment by quarters.*—Table II records the totals of Table I by quarters showing the peak load of attendance in the fall quarter. As in previous years, opportunities for newly entering students at the opening of the winter and spring quarters are limited. To illustrate in somewhat more effective form the variation in enrolment during the college year Chart I has been constructed from the figures for the actual number of students registered at the close of each week throughout the college year. For purposes of comparison the corresponding attendance curve for 1923-24 is also included on the chart.

*Subcollegiate students.*—Table III shows the enrolment in departments which do not require high school graduation for admission. This year there are increases in registration at both the Northwest School of Agriculture and the West Central School of Agriculture. There is again, however, a loss in attendance at the Central School of Agriculture amounting to 10.3 per cent.

The short course for cereal chemists has been discontinued, otherwise the short courses offered are the same as for the previous year.

There is an increase in the net grand total of 457 students or 23 per cent.

*Extension students.*—Table IV shows two types of students: those who pursue courses in classrooms under the personal direction of instructors, and those whose work is conducted through the medium of written directions sent by mail. The first of these, General Extension, shows a gain of 563 students or 13.1 per cent. The second, Correspondence Study, shows a gain of 13 per cent.

*Summary.*—Table V summarizes the totals of Tables I, III, and IV. The net grand total of 20,612 represents the number of individuals, men and women, who during the past year received instruction at the hands of members of the university teaching staff. The increase of 2,519 students as compared with 1923-24 exaggerates slightly the actual increase in the teaching load, since the number of cases of duplication between registration in various units of the University is less this year than last.

CHART I

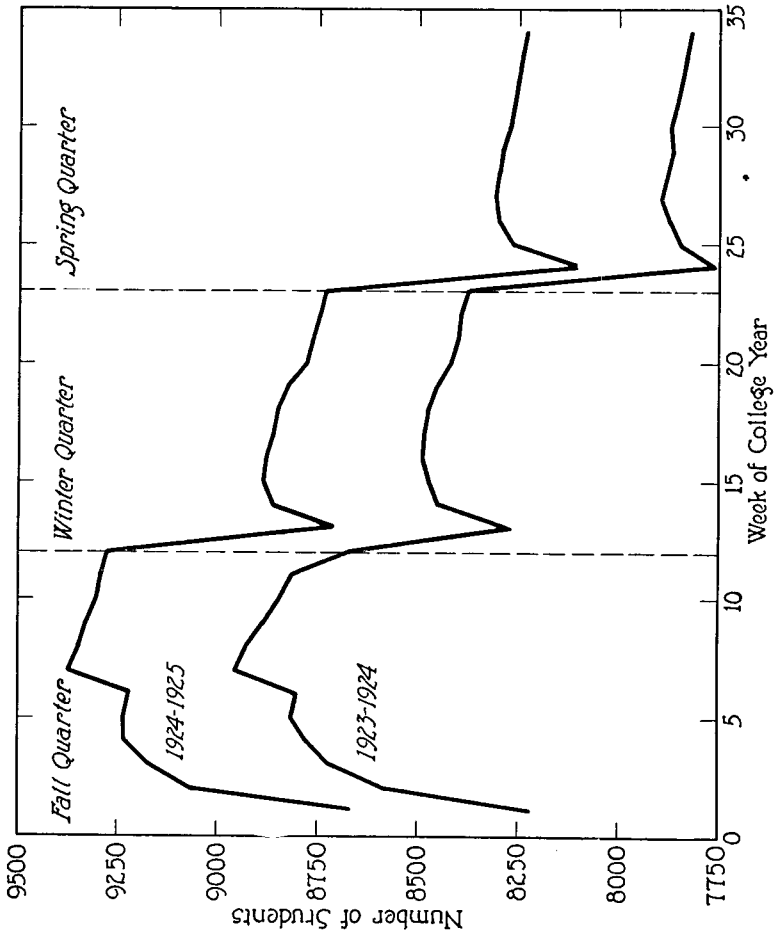


Table VI summarizes the registration for the year by administrative units. Agriculture in this table includes the College of Agriculture, Forestry, and Home Economics, the three schools of Agriculture, and the agricultural short courses. Medicine includes courses for nurses and medical technicians in addition to those in the regular medical course. Dentistry includes the course for dental nurses, and Education includes the University High School. The term "resident student" as used in this table is meant to distinguish those who were in the day classes in the university buildings from those who attended evening classes in the Extension Division or who took work by correspondence.

*Degrees conferred.*—Table VII compares the number of degrees granted during the year 1924-25 with the number granted in 1923-24. The total increase in the number of degrees for the year is 165 or 10.3 per cent.

*Geographical distribution.*—Table VIII enumerates the preparatory schools from which freshman students came to the various colleges and schools during the year 1924-25, and shows the number from each school. The proportionate attendance from Minnesota schools increased slightly from 85.7 per cent in 1923-24 to 87.2 for 1924-25. The per cent that came from schools outside the Twin Cities was 51.2 per cent as compared with 49.2 per cent a year ago. Twenty-three states including the District of Columbia, are represented this year. Students numbering 279 came from states outside Minnesota, and 5 entered from foreign countries.

*Advanced standing.*—Table IX shows the extent of the migration of students from other colleges and universities to the University of Minnesota. During the past year 847 students have come from 180 different institutions. In 1923-24 the total number of students admitted with advanced standing was 813 students, and in 1922-23 only 703. The University has no basis for estimating the number of students who have left Minnesota to attend institutions in other states.

Table X shows the geographical origin of the entire group of collegiate students, exclusive of the Summer Session, by Minnesota counties, by states, and by foreign countries. This table includes the students counted in Table VIII. This year every county in the state is represented, the smallest number, 3 students, comes from Mahnomon County, and the largest number, 4,362,

from Hennepin. Fifty-six and two-tenths per cent of the students come from Hennepin and Ramsey Counties as compared with 55.8 per cent a year ago. Forty-eight states, including the District of Columbia, sent students to the University of Minnesota this year, the largest groups coming from Wisconsin, North Dakota, Iowa, South Dakota, and Montana, in the order named. The number of students who came from the states outside of Minnesota was 1,371; those coming from 26 foreign countries, counting the Philippine Islands, numbered 119.

TABLE I. COLLEGIATE STUDENTS BY SCHOOLS AND COLLEGES  
1923-25

COLLEGE OR SCHOOL	YEAR 1923-24			YEAR 1924-25			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
<b>SCIENCE, LITERATURE AND THE ARTS:</b>								
Seniors .....	163	160	323	140	127	267	.....	56
Juniors .....	191	161	352	193	182	375	23	.....
Sophomores .....	856	660	1,516	978	675	1,653	137	.....
Freshmen .....	965	651	1,607	1,010	680	1,690	83	.....
Unclassed .....	122	139	261	134	139	273	12	.....
Total .....	2,288	1,771	4,059	2,455	1,803	4,258	199	.....
<b>ENGINEERING AND ARCHITECTURE:</b>								
Seniors .....	195	3	198	191	7	198	.....	.....
Juniors .....	205	7	212	201	3	204	.....	.....
Sophomores .....	315	1	316	316	1	317	1	.....
Freshmen .....	421	3	424	411	3	414	.....	.....
Unclassed .....	3	4	7	2	5	7	.....	.....
Total .....	1,139	18	1,157	1,121	19	1,140	.....	17
<b>AGRICULTURE, FORESTRY, AND HOME ECONOMICS:</b>								
Seniors .....	92	93	185	100	104	204	19	.....
Juniors .....	83	104	187	61	74	135	.....	52
Sophomores .....	99	98	197	116	101	217	20	.....
Freshmen .....	103	93	196	97	84	181	.....	15
Unclassed .....	13	20	33	13	11	24	.....	9
Total .....	390	408	798	387	374	761	.....	37
<b>LAW:</b>								
Third year .....	69	1	70	72	2	74	4	.....
Second year .....	84	2	86	79	6	85	.....	1
First year .....	111	9	120	118	5	123	3	.....
Unclassed .....	2	2	4	3	.....	3	.....	1
Total .....	266	14	280	272	13	285	5	.....

## THE PRESIDENT'S REPORT

TABLE I—Continued

COLLEGE OR SCHOOL	YEAR 1923-24			YEAR 1924-25			GAIN	Loss
	Men	Women	Total	Men	Women	Total		
<b>MEDICAL:</b>								
Internes .....	100	6	105	132	10	142	36	.....
Seniors .....	96	8	104	121	9	130	26	.....
Juniors .....	96	7	103	104	6	110	7	.....
Clinical period (net total) .....	189	15	204	193	13	205	2	.....
Sophomores .....	192	6	198	101	11	112	4	.....
Freshmen .....	89	11	100	100	7	107	7	.....
Didactic period (net total) .....	199	17	207	201	18	219	12	.....
Unclassed .....	29	3	32	33	4	37	5	.....
Special .....	11	1	12	20	1	21	9	.....
<b>Total Medicine .....</b>	<b>519</b>	<b>42</b>	<b>561</b>	<b>579</b>	<b>46</b>	<b>625</b>	<b>64</b>	<b>.....</b>
Duplicates .....	45	2	47	45	3	48	1	.....
<b>Net total Medicine..</b>	<b>474</b>	<b>40</b>	<b>514</b>	<b>535</b>	<b>42</b>	<b>577</b>	<b>63</b>	<b>.....</b>
Nursing .....	.....	268	268	.....	283	283	15	.....
<b>MEDICAL TECHNICIANS ..</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>6</b>	<b>.....</b>	<b>.....</b>
<b>DENTISTRY:</b>								
Seniors .....	87	3	90	109	1	110	20	.....
Juniors .....	91	1	92	112	1	113	21	.....
Sophomores .....	88	1	89	85	1	85	.....	3
Freshmen .....	130	2	132	79	1	80	.....	52
Unclassed .....	1	.....	1	1	.....	1	.....	.....
<b>Total .....</b>	<b>397</b>	<b>7</b>	<b>404</b>	<b>386</b>	<b>4</b>	<b>390</b>	<b>.....</b>	<b>14</b>
<b>DENTAL NURSES .....</b>	<b>.....</b>	<b>26</b>	<b>25</b>	<b>.....</b>	<b>32</b>	<b>32</b>	<b>6</b>	<b>.....</b>
<b>MINES:</b>								
Seniors .....	24	.....	24	14	.....	14	.....	10
Juniors .....	14	.....	14	17	.....	17	3	.....
Sophomores .....	29	.....	29	24	.....	24	.....	5
Freshmen .....	26	.....	36	22	.....	22	.....	14
<b>Total .....</b>	<b>103</b>	<b>.....</b>	<b>103</b>	<b>77</b>	<b>.....</b>	<b>77</b>	<b>.....</b>	<b>26</b>
<b>PHARMACY:</b>								
Third year .....	20	3	23	28	12	40	17	.....
Second year .....	40	14	54	46	11	57	3	.....
First year .....	49	13	62	62	14	76	14	.....
Unclassed .....	2	.....	2	4	1	5	3	.....
<b>Total .....</b>	<b>111</b>	<b>30</b>	<b>141</b>	<b>140</b>	<b>38</b>	<b>178</b>	<b>37</b>	<b>.....</b>
<b>CHEMISTRY:</b>								
Seniors .....	23	2	25	27	2	29	4	.....
Juniors .....	25	1	26	28	2	30	4	.....
Sophomores .....	32	2	34	49	1	50	16	.....
Freshmen .....	55	2	57	68	2	70	13	.....
Unclassed .....	.....	1	1	3	.....	3	2	.....
<b>Total .....</b>	<b>135</b>	<b>8</b>	<b>143</b>	<b>175</b>	<b>7</b>	<b>182</b>	<b>39</b>	<b>.....</b>



TABLE I—Continued

COLLEGE OR SCHOOL	YEAR 1923-24			YEAR 1924-25			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
<b>EDUCATION:</b>								
Seniors .....	86	357	437	85	433	518	81	....
Juniors .....	60	394	454	86	421	507	53	....
Sophomores .....	10	98	108	11	77	88	.....	20
Freshmen .....	10	60	70	13	84	97	27	....
Unclassed .....	74	268	342	82	379	461	119	....
Total .....	234	1,177	1,411	277	1,394	1,671	250	....
<b>BUSINESS:</b>								
Seniors .....	99	15	114	116	14	130	16	....
Juniors .....	120	13	133	112	22	134	1	....
Unclassed .....	39	7	37	25	2	27	.....	10
Total .....	249	35	284	253	38	291	7	....
GRADUATES .....	712	235	947	743	254	997	50	....
WAR SPECIALS .....	140	3	143	88	1	89	.....	54
Total academic year	6,639	4,045	10,684	6,911	4,306	11,217	533	....
Less duplicates ...	293	357	650	296	302	598	.....	52
Net total academic year .....	6,346	3,688	10,034	6,615	4,004	10,619	585	....
<b>SUMMER SESSION:</b>								
First term .....	1,774	1,484	3,258	1,892	1,620	3,422	164	....
Second term .....	1,013	292	1,305	969	387	1,356	51	....
Total .....	2,787	1,776	4,563	2,771	2,007	4,778	215	....
Less duplicates ...	849	191	1,040	792	277	1,069	29	....
Net total Summer Session .....	1,938	1,585	3,523	1,979	1,730	3,709	186	....
<b>MAYO FOUNDATION (graduate) summer quarter..</b>								
.....	156	11	167	154	12	166	.....	1
Net total summer enrolment .....	2,094	1,596	3,690	2,133	1,742	3,875	185	....
Grand total (Collegiate) .....	8,440	5,284	13,724	8,748	5,746	14,494	770	....
Less duplicates..	1,667	426	2,093	1,256	502	1,758	.....	335
Net grand total (Collegiate) .....	6,773	4,858	11,631	7,492	5,244	12,736	1,105	....

TABLE II. COLLEGIATE ENROLMENT BY QUARTERS, 1924-25

	MEN	WOMEN	TOTAL
Summer Session, 1924.....	2,133	1,742	3,875
Fall quarter .....	6,004	3,640	9,644
Winter quarter .....	5,863	3,267	9,130
Spring quarter .....	5,382	3,139	8,521
Total (individual) registrations.....	7,492	5,244	12,736

TABLE III. SUBCOLLEGIATE STUDENTS, 1923-25

SCHOOL OR COURSE	YEAR 1923-24			YEAR 1924-25			GAIN	Loss
	Men	Women	Total	Men	Women	Total		
CENTRAL SCHOOL OF AGRICULTURE:								
Three-year course:								
Seniors .....	64	21	85	88	18	106	21	....
Juniors .....	88	36	124	77	25	102	.....	22
Freshmen .....	70	17	87	59	20	79	.....	8
Unclassed .....	131	19	150	99	14	113	.....	37
Total school reg...	353	93	446	323	77	400	.....	46
NORTHWEST SCHOOL OF AGRICULTURE, CROOKSTON:								
Three-year course:								
Seniors .....	30	15	45	24	24	48	3	....
Juniors .....	27	21	48	47	23	70	22	....
Freshmen .....	67	23	90	92	38	130	40	....
Special .....				3	5	8	8	....
Total .....	124	59	183	166	90	256	73	....
Intermediate course ...	5	.....	5	8	7	15	10	....
Total school reg...	129	59	188	174	97	271	83	....
WEST CENTRAL SCHOOL OF AGRICULTURE:								
Three-year course:								
Seniors .....	32	27	59	50	25	75	16	....
Juniors .....	51	23	74	58	32	90	16	....
Freshmen .....	84	30	114	93	32	125	11	....
Unclassed (specials) ...	16	4	20	14	6	20	.....	....
Total .....	183	84	267	215	95	310	43	....
Intermediate course ...	7	2	9	9	6	15	6	....
Total school reg...	190	86	276	224	101	325	49	....
UNIVERSITY HIGH SCHOOL	120	116	236	106	121	227	.....	9
Total schools ....	792	354	1,146	827	396	1,223	77	....
SHORT COURSES:								
Beekeepers short course	17	4	21	26	5	31	10	....
Boys' and girls' short course, Morris .....	136	131	267	260	219	479	212	....
Dairy school .....	83	.....	83	101	.....	101	18	....
Farm women's short course, Morris .....	.....	97	97	.....	96	96	.....	1
Home nursing short course .....	.....	129	129	.....	119	119	.....	10
Junior short course, Crookston .....	56	56	112	152	121	273	161	....
Nurserymen's short course .....	71	10	81	75	4	79	.....	2
Scout-master's short course, Itasca .....	32	.....	32	42	.....	42	10	....
Cereal chemists .....	17	1	18	.....	.....	.....	.....	18
Net total short courses .....	412	428	840	656	564	1,220	380	....
Net grand total.....	1,104	782	1,986	1,483	960	2,443	457	....

TABLE IV. EXTENSION STUDENTS, 1923-25

COURSE	YEAR 1923-24			YEAR 1924-25			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
General .....	2,474	1,823	4,297	2,665	2,195	4,860	563	....
Correspondence .....	834	806	1,640	932	922	1,854	214	....
Total .....	3,308	2,629	5,937	3,597	3,117	6,714	777	....
Less duplicates .....	48	40	88	53	54	107	19	....
Net total .....	3,260	2,589	5,849	3,544	3,063	6,607	758	....

TABLE V. SUMMARY, 1923-25

DIVISION	YEAR 1923-24			YEAR 1924-25			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
Collegiate students ...	6,773	4,858	11,631	7,492	5,244	12,736	1,105	....
Subcollegiate students..	1,204	782	1,986	1,483	960	2,443	457	....
Total .....	7,977	5,640	13,617	8,975	6,204	15,179	1,562	....
Less duplicates..	15	6	21	5	1	6	.....	....
Net total .....	7,962	5,634	13,596	8,970	6,203	15,173	1,577	....
Extension students ...	3,260	2,589	5,849	3,544	3,063	6,607	758	....
Grand total .....	11,222	8,223	19,445	12,514	9,266	21,780	2,335	....
Less duplicates..	838	514	1,352	633	535	1,168	.....	184
Net grand total...	10,384	7,709	18,093	11,881	8,731	20,612	2,519	....

## THE PRESIDENT'S REPORT

TABLE VI. COMPARATIVE REGISTRATION FIGURES, 1923-25

COLLEGE OR SCHOOL	YEAR 1923-24			YEAR 1924-25			GAIN		Loss	
	Men	Women	Total	Men	Women	Total	Men	Women	Men	Women
Science, Literature, and the Arts.....	2,288	1,771	4,059	2,455	1,803	4,258	167	32	.....	.....
Engineering and Architecture .....	1,139	18	1,157	1,121	19	1,140	.....	1	18	.....
Agriculture (includ- ing schools, short courses) .....	1,474	1,074	2,548	1,759	1,212	2,971	285	138	.....	.....
Law .....	266	14	280	272	13	285	6	.....	.....	1
Medical (including Nursing and Medi- cal Technicians) ..	475	313	788	537	328	865	62	15	.....	.....
Dentistry (including Dental Nurses) ..	397	33	430	380	36	422	.....	3	11	.....
Mines .....	103	.....	103	77	.....	77	.....	.....	26	.....
Pharmacy .....	111	30	141	140	38	178	29	8	.....	.....
Chemistry .....	135	8	143	175	7	182	40	.....	.....	1
Education (including University High School) .....	334	1,293	1,627	383	1,515	1,898	29	222	.....	.....
Graduate .....	712	235	947	743	254	997	31	19	.....	.....
Business .....	249	35	284	253	38	291	4	3	.....	.....
War Specials .....	140	3	143	88	1	89	.....	.....	52	2
Summer Session (net) .....	2,094	1,596	3,690	2,133	1,742	3,875	39	146	.....	.....
Total .....	9,937	6,423	16,360	10,522	7,006	7,528	585	583	.....	.....
Less duplicates ..	1,975	789	2,764	1,552	803	2,355	.....	14	423	.....
Net total .....	7,962	5,634	13,596	8,970	6,203	15,173	1,008	569	.....	.....
EXTENSION:										
General .....	2,474	1,823	4,297	2,665	2,195	4,860	191	372	.....	.....
Correspondence ..	834	806	1,640	932	922	1,854	98	116	.....	.....
Total .....	3,308	2,629	5,937	3,597	3,117	6,714	289	488	.....	.....
Less duplicates ..	48	40	88	53	54	107	5	14	.....	.....
Net total .....	3,260	2,589	5,849	3,544	3,063	6,607	284	474	.....	.....
SUMMARY:										
Total, resident students .....	7,962	5,634	13,596	8,970	6,203	15,173	1,008	569	.....	.....
Total, extension students .....	3,260	2,589	5,849	3,544	3,063	6,607	284	474	.....	.....
Grand total .....	11,222	8,223	19,445	12,514	9,266	21,780	1,292	1,043	.....	.....
Less duplicates ..	838	514	1,352	633	535	1,168	.....	21	205	.....
Net grand total ..	10,384	7,709	18,093	11,881	8,731	20,612	1,497	1,022	.....	.....

TABLE VII. DEGREES CONFERRED, 1923-25

COLLEGES AND DEGREES	YEAR 1923-24*			YEAR 1924-25†		
	Men	Women	Total	Men	Women	Total
<b>SCIENCE, LITERATURE, AND THE ARTS:</b>						
B.A. <i>summa cum laude</i> .....		1	1	2		2
B.A. <i>magna cum laude</i> .....	7	6	13	6	3	9
B.A. <i>cum laude</i> .....	9	11	20	9	11	20
B.A. ....	109	110	219	135	104	239
B.S. (academic-medical) .....	96	6	102	77	8	85
B.S. ....	2	2	4	4	17	21
<b>ENGINEERING AND ARCHITECTURE:</b>						
B.S. in architectural engineering....	4		4	4		4
B.S. in civil engineering .....	43		43	54	2	56
B.S. in electrical engineering .....	70		70	67		67
B.S. in mechanical engineering .....	44		44	26		26
B.S. in architecture .....	8		8	13		13
B.S. in interior decoration .....					4	4
<b>AGRICULTURE:</b>						
B.S. (agriculture) .....	54		54	40	1	41
B.S. (forestry) .....	17		17	14		14
B.S. (home economics) .....		14	14		29	29
<b>AGRICULTURE AND EDUCATION:</b>						
B.S. with distinction (agriculture)..				1		1
B.S. with distinction (home econ.)..					3	3
B.S. (agriculture) .....	9		9	18		18
B.S. (home economics) .....		53	53		55	55
<b>LAW:</b>						
LL.B. ....	66	1	67	58	2	60
<b>MEDICINE:</b>						
M.D. with distinction .....	1	1	2			
M.D. ....	55	1	56	97	8	105
M.B. ....	90	8	98	93	7	100
Graduate in nursing .....		39	39		70	70
<b>DENTISTRY:</b>						
D.D.S. ....	76	2	78	84	1	85
Graduate dental nurse.....		13	13		7	7
<b>MINES:</b>						
E.M. ....	11		11	7		7
E.M. in geology .....	3		3	3		3
Met.E. ....	2		2	4		4
<b>PHARMACY:</b>						
B.S. in pharmacy.....	3		3	6		6
Phm.C. ....	11	2	13	20	9	29
<b>CHEMISTRY:</b>						
B.S. in Chem. ....	1	1	2	5	1	6
B.S. in chemical engineering .....	10		10	12	1	13
<b>EDUCATION:</b>						
B.S. with distinction .....				5	28	33
B.S. ....	48	230	278	46	220	266
<b>BUSINESS:</b>						
B.S. in business .....	82	12	94	20	80	100

\* Degrees conferred from July 1, 1923 to June 30, 1924.

† Degrees conferred from July 1, 1924 to June 30, 1925.

TABLE VII—Continued

COLLEGES AND DEGREES	YEAR 1923-24*			YEAR 1924-25†		
	Men	Women	Total	Men	Women	Total
<b>GRADUATE:</b>						
M.A. ....	35	23	58	42	21	63
M.S. ....	46	1	47	33	6	39
M.S. in chemical engineering .....	5		5	5		5
Chemical engineer .....				1		1
M.S. in civil engineering .....	1		1			
M.S. in electrical engineering .....				4		4
M.S. in mechanical engineering ....	3		3	3		3
M.S. in architecture .....				1		1
M.S. in medicine .....	1	1	2	3		3
M.S. in nervous and mental diseases .....				1		1
M.S. in neurology .....	1		1			
M.S. in ophthalmology .....	1		1			
M.S. in orthopedic surgery .....	2		2			
M.S. in pathology .....				1		1
M.S. in pediatrics .....	1		1			
M.S. in radiology .....	1		1			
M.S. in roentgenology .....	1		1			
M.S. in surgery .....	4		4	9		9
M.S. in urology .....	2		2	1		1
Ph.D. ....	24	3	27	26	4	30
Ph.D. in obstetrics and gynecology..				1		1
Ph.D. in pediatrics .....				1		1
LL.D (honorary degree).....				1		1
<b>Totals .....</b>	<b>1,059</b>	<b>541</b>	<b>1,600</b>	<b>1,063</b>	<b>702</b>	<b>1,765</b>

\* Degrees conferred from July 1, 1923 to June 30, 1924.

† Degrees conferred from July 1, 1924 to June 30, 1925.















TABLE VIII—Continued

	Science, Literature, and the Arts	Engineering & Architecture	Agriculture	Nursing	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Total
Walker .....										1
Walnut Grove .....	1									1
Wanamingo .....	1									1
Warren .....	1									1
Warroad .....		2								2
Waseca .....	3						1			4
Watertown .....	1					1				2
Waterville .....	1	2								3
Waubon .....										
Waverly .....										
Wayzata .....	2	1	3							6
Welcome .....		2								2
Wells .....	1									1
West Concord .....										
Westbrook .....		1								1
Wheaton .....	1				1					2
White Bear .....		1	1							2
Willmar .....	2	1		1					1	5
Windom .....	2	1								3
Winnebago .....			1	1						2
Winona .....	4	1		1				1		7
Winthrop .....	1	2								3
Washington .....	4	4								8
Wykoff .....										
Young America .....		1								1
Zumbrota .....	1									1
Total .....	1209	242	117	52	11	10	40	47	59	1787
OTHER SECONDARY SCHOOLS:										
Albert Lea .....										
Luther Academy .....				1						1
Austin .....										
Columbus H. S. ....	1									1
Crookston .....										
Northwest School of Agriculture .....			3							3
Collegeville .....										
St. John's Univ. ....	1						1			2
Faribault .....										
St. Mary's Hall ...	3		1	1					1	6
Shattuck .....	6	1								7
Glencoe .....										
Stevens Seminary ..								1		1
Minneapolis .....										
Augsburg Seminary ..	1									1
Minnehaha Academy ..	6		1							7
Minnesota College ..	3	4		1	1					9
Northrop Collegiate ..	8									8
St. Anthony Acad. ...	2									2
St. Margaret's Acad. .	11		1		1				1	14
Morris .....										
West Central School of Agriculture .....		1								1
Owatonna .....										
Pillsbury Academy ..	4									4
St. Cloud .....										
Cathedral H. S. ....			1							1
St. Paul .....										
Backus School .....									1	1
Bethel Academy .....			1	1						2
Blake School .....	2									2
Breck School .....	1	1								2
Central School of Agriculture .....			10							10



TABLE VIII—Continued

	Science, Literature, and the Arts	Engineering & Architecture	Agriculture	Nursing	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Total
Floyd H. S. ....				I						1
Fort Dodge H. S. ....		I								1
Glidden Consol. ....	1									1
Harthy H. S. ....	1									1
Hospers H. S. ....	1									1
Indianola H. S. ....		I								1
Lake Mills H. S. ....	1									1
Le Mars H. S. ....		I								1
Lyons H. S. ....	1									1
Manila H. S. ....				I						1
Marshalltown H. S. ....	2									2
Mason City H. S. ....	1									1
Milford H. S. ....				I						1
New Albin H. S. ....	1									1
Nora Springs H. S. ....	1									1
Oelwein H. S. ....	1									1
Osage H. S. ....	1									1
Osceola H. S. ....	1									1
Ossian H. S. ....	I									1
Rock Rapids ....				I						1
Rock Valley ....	1									1
Sheldon H. S. ....	1									1
Sioux City H. S. ....								I		1
Wall Lake H. S. ....				I						1
Waverly										
Wartburg Normal	1									1
Kansas										
Coffeyville H. S. ....	1									1
Kansas City										
Lincoln H. S. ....	1									1
Massachusetts										
Boston										
Miss May's Acad. ....	1									1
Princeton H. S. ....								I		1
Wellesley										
Dana Hall ....	2									2
Michigan										
Bessemer										
Johnston H. S. ....	2	I								3
Ironwood										
Luther Wright H.S. ....	4									4
Menominee H. S. ....				I						1
Wakefield H. S. ....	2									2
Missouri										
Flat River H. S. ....		I								1
Kansas City										
Lincoln H. S. ....	1									1
Marionville H. S. ....		I								1
Maryville H. S. ....	1									1
St. Louis										
Sumner H. S. ....	I	I								2
Yeaton H. S. ....						I				1
Webster Grove H.S. ....	1									1
Montana										
Billings H. S. ....	2									2
Froid H. S. ....									I	1
Hamilton H. S. ....	1									1
Hardin H. S. ....	1									1
Helena H. S. ....	2									2
Kalispel										
Flat Head County										
H. S. ....	1									1
Polson H. S. ....							I			1
Roundup H. S. ....				I						1
Townsend H. S. ....	1									1
Wolf Point H. S. ....				I						1

TABLE VIII—Continued

	Science, Literature, and the Arts	Engineering & Architecture	Agriculture	Nursing	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Total
Nebraska										
Lincoln H. S.....	1								1	2
O'Neill H. S.....										1
Omaha										
Central H. S....	1							2		3
Stromsburg H. S...				1						1
New Hampshire										
New London										
Colby Academy...	1									1
New York										
Corning										
Corning Free Acad.	1									1
Manlius										
St. John's Acad....	1									1
Mount Vernon H.S.	1									1
New York City										
Flushing H. S....	1									1
Pleasantville H. S..	1									1
North Dakota										
Anamoose H. S....	1									1
Ardoch H. S. ....	1									1
Bismarck H. S....	1									1
Columbus H. S....		1								1
Devils Lake H.S....										2
Dickinson H. S....	4	1								5
Edgely H. S....	1									1
Enderlin H. S....				1						1
Fargo										
Central H. S....	3									3
Garrison H. S....	1									1
Glen Ullen H. S....	1									1
Grafton H. S....	1									1
Grand Forks H. S.				1						2
Hankinson H. S....	1									1
Hoople			1							1
Jamestown H. S....	2									4
Larimore			1							1
Lisbon H. S....				1						1
Mandan H. S....		1								2
Minot H. S....	1	1		1						3
Mohall H. S....				1						1
Mohawk H. S....	1									1
New Rockford H. S.	1									1
Northwood H. S....	1									1
Osnabrock H. S....	1									1
Pekin H. S....	1									1
Rhome H. S....				1						1
Rolette H. S....								1		1
Rugby H. S....				1						2
Tower City H. S....	1									1
Willeston H. S....	3									3
Ohio										
Dayton										
Stivers H. S....								1		1
Ottawa H. S. ....	2									2
Springfield			1							1
Tray H. S. ....								1		1
Oregon										
Tillamook									1	1
Pennsylvania										
Knox			1							1
South Dakota										
Aberdeen H. S....	5		1							6
Alcester H. S....	1									1
Bradley H. S....	1									1
Conda			1							1





TABLE VIII—Continued

	Science, Literature, and the Arts	Engineering & Architecture	Agriculture	Nursing	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Total
Madison										
Wisconsin H. S.	1									1
Mondovi	1									1
Monroe							1			1
New Richmond		1								1
Oconto		1								1
Phillips	1									1
Prairie de Chien										
Campion Acad.	1									1
Rice Lake	2		2							4
River Falls		1								1
Shawano	1									1
Spooner	1									1
Superior										
Central H. S.	2	1					1			4
Tomah	1									1
Viroqua	3			1						4
Total for U.S. (ex- cept Minnesota)	183	31	11	31		3	4	7	9	279
FOREIGN COUNTRIES:										
Canada	1									1
Norway		1								1
Roumania		1								1
Russia		1								1
Germany			1							1
Totals	1	3	1							5

TABLE IX. STUDENTS ADMITTED WITH ADVANCED STANDING

	Science, Literature, and the Arts	Engineering	Agriculture	Law	Medicine	Nursing	Dentistry	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Business	Total
MINNESOTA:														
Augsburg Seminary	2													2
Bemidji Normal														1
Carleton College	38	4			5						1	8	6	62
Concordia Coll. (Moorhead)	1	1				1								3
Concordia Coll. (St. Paul)												1		1
Ely Junior College	3		2										1	6
Eveleth Junior College	3		1	1	1							2	1	9
Gustavus Adolphus	9				2					1		4	1	18
Hamline University	28	1	6	1	4					1	2	6	4	53
Handicraft Guild														1
Hibbing Junior College	5	6	2		1						1	13	2	30
Institute of Arts												2		2
Itasca Junior College	3	2										3		8
Macalester College	15	5			6							2		28
Park Region Lutheran Coll.	2	2												4
Parker Junior College	1	2	1							1				5
Rochester Junior College	6		1	1	3					1		5	1	18
St. Benedict's College												1		1
St. Catherine's College	9											5		14
St. John's University	1													1
St. Mary's College	1	1												2
St. Mary's Hall												1		1
St. Olaf College	17	1		2	2					1		5	2	30
St. Paul Normal												3		3
St. Theresa College	2		1									3		6
St. Thomas College	20	6		2	6					1	3		1	39
Stanley College												1		1
State Teacher's College (Duluth)												7		7
State Teacher's College (Mankato)												13		13
State Teacher's College (Moorhead)												6		6
State Teacher's College (St. Cloud)	1		1									21		23
State Teacher's College (Winona)	1		2									12		15
Virginia Junior College	3		1									3	4	11
Winona Junior College	1													1
Totals	172	31	18	7	30	1	1			7	6	129	23	425
UNITED STATES:														
Albany College (Ore.)												1		1
Amherst College (Mass.)	1			1										2
Arizona, University of		1										1		2
Armour Institute of Tech- nology (Ill.)		1												1
Aurora College (Ill.)	2													2
Baldwin-Wallace College (Ohio)					1									1
Bellingham Normal (Cal.)												1		1
Beloit College (Wis.)												1		1
Bethel College (Kan.)	1													1
Buena Vista College (Ia.)	1													1
California, University of												2		2
California, University of (Southern Branch)	2													2
California, Institute Tech- nology		1												1
Capitol University (Ohio)	1													1
Carroll College (Wis.)	1													1
Catholic University of America (Wash., D.C.)				1										1
Central College (Ia.)											1			1

TABLE IX—Continued

	Science, Literature and the Arts	Engineering	Agriculture	Law	Medicine	Nursing	Dentistry	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Business	Total
Chicago, University of....	1			1								2		4
Chicago Normal School of P. E. ....														1
Colorado, School of Mines Colorado, University of...	1											3		4
Columbia University (N.Y.)												4		4
Cornell College (Ia.)....	3											1		4
Cornell University (N.Y.)		2												2
Creighton University (Neb.) .....				1										1
Dakota Wesleyan (S.D.)..												1		1
Dartmouth (N.H.) .....	1													1
Denison University (Ohio)	2			1	1									4
Denver, University of (Colo.) .....	1													1
Dickinson Normal (N.D.)												1		1
Drake University (Iowa)												1		1
Eau Claire Normal (Wis.)	1	1	1									3		6
El Paso Junior College (Texas) .....	1													1
Ferry Hall (Ill.).....	1													1
Forestry State Normal (N.D.) .....	1													1
Frances Shimer (Ill.)....	1													1
Franklin College (Ind.)...												2		2
Geneva College (Pa.)....								1						1
George Washington Uni- versity (Wash., D.C.)..	1													1
Georgia, Institute of Tech- nology .....	1	2												3
Gonzaga University (Wash.)												1		1
Grinnell College (Ia.)....	4											1		5
Harvard University (Mass.)	2			1								1		4
Huron College .....	2													2
Idaho, University of.....			1									1	1	3
Illinois, University of....	2													2
Illinois, Woman's College			1											1
Indiana, University of....	1													1
Iowa, University of.....	10		1	1			2					2	3	19
Iowa State College.....	5	4												9
Iowa State Teacher's Col- lege .....	7			1								3	2	13
Jamestown College (N.D.)		1										1		2
Kansas, University of....	1			1	1									3
Kansas Agricultural College	1		1											2
Kirksville Teacher's Col- lege (Mo.) .....												1		1
Knox College .....	2													2
La Crosse Normal (Wis.)	2		1									2		5
Lake Forrest College (Ill.)	1										1			2
Lawrence College (Wis.)..	3											1	1	5
Lehigh University (Pa.)..									1					1
Lewis Institute (Ill.)....		1												1
Lindenwood College (Mo.)	1													1
Luther College (Ia.)....	1	1		1								1		4
Lutheran Normal (S.D.)..												1		1
Madison Normal (S.D.)..												1		1
Marquette University (Wis.) .....	1	2					2		1					6
Mason City Junior College (Ia.) .....	3										1			4
Michigan, University of...	3	1		2	1									7
Milwaukee Downer (Wis.)	3		1			1						2		7
Milwaukee State Normal (Wis.) .....												1		1
Minot Normal (N.D.)....			1									2		3

TABLE IX—Continued

	Science, Literature, and the Arts	Engineering	Agriculture	Law	Medicine	Nursing	Dentistry	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Business	Total
Missouri, University of...	1													1
Missouri Valley College (Mo.)			1											1
Monmouth College (Ill.)	1											1		2
Montana, University of..	1													1
Montana Wesleyan .....												1		1
Morningside College (Ia.)	3			3										6
Mt. Morris College (Ill.)	1													1
Mt. St. Joseph College(Ia.)	1													1
Nebraska, University of..	3				2							5		5
Nebraska Wesleyan .....	1													1
North Dakota, University of .....	5	2		1	2	1						7	1	19
North Dakota Agricultural College .....	4	2	1									3		10
North Park College (Ill.)	1													1
North Western College (Ill.) .....	2													2
Northern Illinois State Teacher's College .....			1											1
Northern Normal and In- dustrial School (S.D.)	4										2	3		9
Northern State Normal (Mich.) .....	1	1				1					1			4
Northwestern University (Ill.) .....	1	1					1						1	4
Notre Dame (Ind.).....	2													2
Oberlin College (Ohio)...	1				1									2
Ohio Wesleyan .....	1													1
Oklahoma, University of	1													1
Oklahoma Agricultural and Mechanical College .....	2													2
Oklahoma College for Women .....			1											1
Oshkosh Normal (Wis.)...	1											2		3
Park College (Mo.).....	1	1				1								3
Princeton University(N.J.)					1									1
Rensselaer Polytechnical (N.Y.) .....		1												1
River Falls Normal (Wis.)												11		11
Rockford College (Ill.)...	2		1											3
Rosary College (Ill.).....	3													3
St. Lawrence University (N.Y.) .....	1													1
St. Mary's College (Wis.)	1													1
St. Mary's of the Woods (Ind.) .....	1													1
Simmon's College (Mass.)			1											1
Sioux Falls College (S.D.)	1		1									4		6
Smith College (Mass.)...	6											1		7
South Dakota, University of .....	3											2		5
South Dakota State Col- lege .....	4	3										2	1	10
South Dakota State School of Mines .....		1			1									2
Southern California, Uni- versity of .....				1								1		2
Stanford University .....				1										1
Stephens Junior College (Mo.) .....												1		1
Stevens Point Normal (Wis.) .....			1									2	1	4
Stout Institute (Wis.)...			3											3
Sullin's College (Va.)...	1												1	2
Superior Normal (Wis.)..	8			2	2							10		22

## THE PRESIDENT'S REPORT

TABLE IX—Continued

	Science, Literature, and the Arts	Engineering	Agriculture	Law	Medicine	Nursing	Dentistry	Dental Nursing	Mines	Pharmacy	Chemistry	Education	Business	Total
Sweet Briar College (Va.)	1													1
Tennessee	1													1
Texas, University of														2
United States Military Academy (Va.)	1													1
Upper Iowa University														1
Valley City Teacher's College (N.D.)	1													1
Vassar College (N.Y.)	3											2		3
Virginia, University of	1													3
Wahpeton State School of Science (N.D.)														1
Ward Belmont College (Tenn.)												1		1
Washington, University of	1				1									1
Wayne State Normal (Neb.)														2
Wheaton College (Ill.)					1							2		2
Williams College	2													1
Wisconsin, University of	6	5	3	1	4				2		1	5		27
Wyoming, University of		1												1
Yale University (Conn.)	1	1		1										3
Yankton College													1	1
Totals	169	37	22	24	19	3	5		6		7	108	15	415
FOREIGN COUNTRIES:														
Imperial Technological School of Moscow		1												1
Lyceum of Balti, Bessa- rabia	1													1
Nordmor School, Norway		1												1
Philippines, University of		1												1
Regina College Institute, Canada		1												1
School of Agriculture, Potchefstroom Transvaal, South Africa			1											1
Tsing-Hua College, China			1											1
Totals	1	4	2											7
Grand totals	342	72	42	31	49	4	6	1	6	7	13	237	38	848

TABLE X. GEOGRAPHICAL DISTRIBUTION OF UNIVERSITY STUDENTS OF COLLEGIATE GRADE  
(OTHER THAN SUMMER SESSION), 1924-25

	S., L., and A.	Engi- neer- ing	Agric- ul- ture	Law	Medi- cal	Nurs- ing	Med. Tech- nicians	Dent- ist- ry	Dental Nurses	Mines	Phar- macy	Chem- istry	Edu- cation	Busi- ness	Gradu- ate	War Spec- ials	Dupli- cates	Total
Aitkin	7	3	2	...	...	...	...	...	...	...	...	...	1	1	...	...	1	13
Anoka	12	2	6	...	...	3	...	...	...	...	...	1	4	3	1	...	3	29
Becker	14	3	...	...	...	1	...	...	...	1	1	1	3	2	...	...	2	24
Beltrami	10	4	1	1	1	...	...	2	...	...	...	3	2	1	...	...	1	24
Benton	...	3	1	1	2	...	...	...	...	...	...	...	...	...	2	...	1	10
Big Stone	8	2	4	1	1	...	...	...	1	1	2	...	4	2	2	...	2	24
Blue Earth	32	12	5	3	6	2	...	3	...	...	...	3	17	6	7	1	7	91
Brown	15	10	9	2	4	2	...	1	...	...	2	2	4	1	3	...	3	52
Carlton	14	8	5	1	2	6	...	1	...	...	...	3	2	2	...	1	2	43
Carver	7	8	3	...	...	...	...	4	...	...	...	2	...	...	...	...	1	23
Cass	4	6	1	...	2	1	...	...	...	1	...	3	2	1	...	...	2	17
Chippewa	12	3	8	...	2	1	...	2	1	1	1	1	5	...	1	...	5	33
Chisago	7	4	4	1	5	3	1	1	...	1	1	1	7	2	...	...	1	37
Clay	6	3	1	1	1	1	...	2	...	...	...	...	10	...	1	1	1	25
Clearwater	...	2	2	...	...	...	...	...	...	...	...	...	2	1	...	...	2	5
Cook	3	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	5
Cottonwood	15	7	2	1	...	1	...	...	...	...	...	...	4	3	3	...	2	34
Crow Wing	15	7	5	4	9	8	...	4	...	1	...	2	7	...	3	...	3	62
Dakota	20	10	2	1	4	2	...	...	...	...	...	3	9	3	2	...	7	49
Dodge	9	2	3	2	1	1	...	2	...	...	...	...	2	...	1	...	2	21
Douglas	22	5	3	4	...	3	...	5	...	...	...	1	4	...	1	...	1	47
Faribault	10	4	1	2	4	2	...	3	...	...	...	1	2	1	2	...	2	30
Fillmore	18	4	5	5	6	...	...	3	...	1	2	11	4	5	5	...	5	60
Freeborn	21	6	5	1	2	3	...	...	...	1	...	7	1	3	...	...	2	48
Goodhue	27	8	8	4	5	5	...	4	...	1	...	13	4	4	...	...	6	78
Grant	15	1	1	1	1	...	...	3	...	...	...	2	2	1	1	...	...	28
Hennepin	2038	435	257	110	171	47	3	127	14	34	70	77	796	88	263	53	221	4362
Houston	10	2	1	...	...	...	...	3	...	...	1	...	2	2	2	...	2	21
Hubbard	8	2	2	...	...	1	...	1	...	...	...	...	1	1	...	1	...	15
Isanti	6	2	1	1	1	...	...	...	...	...	2	2	1	...	...	...	...	16
Itasca	12	9	2	1	1	2	...	4	...	2	2	...	5	...	1	...	1	40
Jackson	5	2	...	...	3	...	...	...	...	...	...	2	2	...	3	...	...	15
Kanabec	7	2	1	...	...	...	...	...	...	1	...	...	1	...	1	...	...	12
Kandiyohi	17	5	1	2	3	2	...	2	...	1	...	2	8	1	2	...	3	43
Kittson	1	...	3	...	...	...	...	1	...	...	...	...	...	...	...	...	...	5
Koochiching	9	4	...	1	1	1	...	...	...	...	1	1	1	...	1	...	1	19
Lac qui Parle	7	4	1	1	4	...	...	2	...	...	1	1	4	...	2	...	2	25
Lake	5	1	1	1	1	...	...	2	...	...	1	1	1	5	2	...	2	18
Le Sueur	16	6	4	1	...	...	...	1	...	...	2	...	2	...	2	...	1	33
Lincoln	7	1	4	...	1	1	...	1	...	...	1	1	3	...	4	...	4	20
Lyon	14	4	6	2	...	4	...	6	1	1	...	...	9	2	...	...	5	46

TABLE X—Continued

	S., L., and A.	Engi- neer- ing	Agricul- ture	Law	Medi- cal	Nurs- ing	Med. Tech- nicians	Dent- istry	Dental Nurses	Mines	Phar- macy	Chem- istry	Edu- cation	Busi- ness	Gradu- ate	War Spec- ials	Duplic- ates	Total
McLeod	17	3	5	....	3	5	....	4	....	2	1	2	7	1	2	1	4	49
Mahnomen	3	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Marshall	6	1	2	1	2	2	....	1	....	....	....	....	5	....	....	1	2	19
Martin	19	6	6	3	5	....	....	4	....	1	1	3	....	1	3	....	1	56
Meeker	14	5	7	2	4	2	....	3	....	....	2	....	6	1	3	....	6	43
Mille Lacs	10	2	1	....	....	2	....	1	....	....	....	....	....	....	....	1	....	17
Morrison	19	6	3	2	3	....	....	....	....	....	3	3	5	....	3	....	4	43
Mower	25	9	9	....	1	2	....	2	....	....	1	....	10	....	3	2	4	60
Murray	11	3	....	....	....	2	....	1	....	....	1	....	1	2	....	....	....	21
Nicollet	5	5	1	1	4	....	....	1	....	....	....	....	4	....	1	....	1	21
Nobles	13	7	....	....	4	....	....	....	1	....	....	....	1	....	3	....	....	29
Norman	7	5	....	....	2	2	....	....	....	....	....	....	....	....	....	....	....	3
Olmsted	19	7	5	....	9	1	....	1	....	....	1	....	3	1	3	....	3	22
Otter Tail	29	7	6	2	5	3	....	3	....	....	....	1	9	1	3	1	3	80
Pennington	5	2	6	1	....	1	....	....	....	....	....	....	3	2	....	....	1	67
Pine	7	3	5	....	2	2	....	1	....	....	....	1	6	....	4	....	3	19
Pipestone	9	4	....	1	....	....	....	1	....	....	1	....	3	1	2	....	1	28
Polk	10	3	5	1	4	1	....	2	....	....	2	1	8	....	6	....	4	21
Pope	13	8	2	....	1	3	....	....	....	....	1	....	7	1	2	....	4	39
Ramsey	655	169	144	39	87	21	....	61	9	7	24	31	213	34	182	9	80	1605
Red Lake	2	2	....	....	....	3	....	....	....	....	....	....	....	....	....	....	....	7
Redwood	17	6	3	2	5	1	....	2	1	....	2	....	2	1	1	....	1	42
Renville	18	4	9	2	6	....	....	4	....	1	4	1	11	2	....	....	4	58
Rice	18	5	4	....	9	3	....	1	....	....	1	....	7	1	5	3	3	54
Rock	5	3	1	1	1	....	....	....	....	....	1	....	2	....	1	....	1	14
Roseau	3	2	1	1	....	3	....	....	....	....	....	....	1	....	....	....	1	10
St. Louis	147	67	36	26	26	11	....	22	2	5	6	86	24	11	2	31	440	
Scott	7	3	2	1	1	1	....	5	1	....	2	....	5	....	....	....	2	26
Sherburne	7	1	2	....	....	....	....	....	....	....	....	....	2	3	3	....	2	16
Sibley	8	3	1	....	4	....	....	1	....	1	1	....	1	1	2	....	2	21
Stearns	30	8	3	4	8	9	....	5	....	....	4	....	19	2	9	....	4	97
Steele	8	5	6	2	3	2	....	1	....	....	4	1	5	3	2	....	2	40
Stevens	9	2	3	....	....	....	....	1	....	....	1	1	2	2	....	....	3	18
Swift	15	2	3	2	2	1	....	6	....	1	....	1	5	1	1	1	4	37
Todd	9	9	4	....	3	1	....	1	....	....	2	2	1	....	1	....	2	31
Traverse	4	....	1	....	....	1	....	....	....	....	2	....	....	....	2	....	....	10
Wabasha	10	4	4	2	2	3	....	4	....	1	1	....	10	2	1	....	6	34
Wadena	9	2	2	....	3	....	....	....	....	....	....	....	1	....	2	....	....	19
Waseca	11	3	1	....	2	....	....	1	....	....	1	....	3	1	1	....	....	24
Washington	19	8	4	2	4	2	....	1	....	....	1	....	11	4	5	1	4	58
Watonwan	9	4	5	....	1	1	....	1	1	....	1	....	8	....	3	....	7	27
Wilkin	4	2	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	7





TABLE X—Continued

	S., L., and A.	Engi- neer- ing	Agri- cul- ture	Law	Medi- cal	Nurs- ing	Med. Tech- nicians	Den- tist- ry	Dental Nurses	Mines	Phar- macy	Chem- istry	Edu- cation	Busi- ness	Gradu- ate	War Spe- cials	Dupli- cates	Total
South Carolina..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	4
South Dakota ..	72	16	14	3	10	8	.....	3	.....	.....	2	1	35	12	11	2	14	175
Tennessee .....	.....	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	3	.....	.....	5
Texas .....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	5	.....	1	8
Utah .....	.....	.....	1	.....	4	.....	.....	.....	.....	.....	.....	.....	1	.....	4	.....	.....	10
Vermont .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
Virginia .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	10
Washington .....	5	2	1	.....	8	.....	.....	1	.....	.....	.....	.....	1	.....	6	.....	.....	24
West Virginia ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....	5
Wisconsin .....	70	28	14	7	21	22	1	19	1	3	4	2	52	9	24	2	11	268
Wyoming .....	2	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	5
Totals .....	430	104	67	29	95	80	2	52	2	12	15	12	186	47	299	9	70	1371
FOREIGN COUNTRIES:																		
Argentina .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Australia .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
Belgium .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Canada .....	5	4	1	.....	3	.....	.....	1	.....	.....	.....	.....	1	1	35	.....	.....	51
China .....	4	1	3	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	11
Cuba .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Denmark .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
England .....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	1
France .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
Germany .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
Hawaii .....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Hungary .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
India .....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Ireland .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....	1
Japan .....	.....	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Korea .....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Latvia .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
New Zealand .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Norway .....	.....	.....	.....	.....	1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Palestine .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Philippine Is. ..	2	4	2	.....	1	.....	.....	.....	.....	1	.....	.....	.....	.....	5	.....	1	14
Poland .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Scotland .....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2
Serbia .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1
South Africa .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	2
Sweden .....	1	.....	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	1	.....	.....	5
Totals .....	15	12	8	.....	17	.....	.....	6	.....	1	.....	1	1	1	62	.....	5	119
Grand totals	4258	1140	761	285	577	233	6	390	32	77	178	182	1671	291	997	89	598	10619

CONCLUSION

In conclusion it is a pleasure to record the fact absolutely essential to steady progress in a university that a most commendable spirit of good will has prevailed among the faculties, the students, and the patrons of the University. The year was one of diligent and effective work on the part of all those concerned in the upbuilding of the University.

Respectfully submitted,

L. D. COFFMAN, *President*

## THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

*To the President of the University:*

SIR: I have the honor to present the following report on the work of the College of Science, Literature, and the Arts for the year 1924-25.

During the last two years the growth in enrolment of the college has shown a moderate increase as compared with the very rapid growth in the years following the war. The following table gives a summary of faculty, students, graduates, and the teaching load for each of the past five years. The figures show the total enrolment for the year and the number of the faculty actually teaching in the fall quarter together with the teaching load for that quarter.

	1920-21	1921-22	1922-23	1923-24	1924-25
Faculty .....	197	193.5	199	199.8	202.33
Teaching load in student units	3,630	3,702	3,676	3,911	4,063
Enrolment .....	3,963	3,908	3,905	4,059	4,258
Men .....	2,262	2,296	2,249	2,288	2,455
Women .....	1,701	1,612	1,656	1,771	1,803
Graduates .....	284	312	341	359	376

The attention of the faculty and administrative officers has been given to methods of improving teaching and to plans for adjusting the work of the college to the changing needs of the time. The plan of sectioning large classes on the basis of ability or achievement has been followed by several departments with general advantage to the students. Some of our faculty are engaged in a study of the size of classes with respect to the age and classification of students, subject-matter to be presented, experience and ability of instructors, and the bearing of these and other factors on the attainments of students. An increasing number of the faculty are making use of the new (objective) type of examinations and there is an increasing interest in the effort to make our standards of work and measures of attainment objective and reliable instead of subjective and uncertain as they have been too largely.

Provision for advising students has been extended. About four fifths of the junior college students have conferences with advisers at the time of registration each quarter. A group of fifteen members of the faculty under the leadership of Professor Paterson has been studying the methods of dealing with the special problems of individual students. In the course of the year they have had under their care about 315 students of all types from probationers to honor students. Contact with these students has ranged from one or two brief interviews to many conferences extending

over several weeks or months and involving careful investigation among the families and friends of the advisee to discover means of removing his difficulties, or the search for suitable employment for students who were out of place in college. In this placement work we have had the intelligent and enthusiastic help of Miss Rosenstiel. The advisers have also had the constant and sympathetic help of the Students' Health Service. There is need for more extended service in the field of mental hygiene including follow up by social case work methods. I hope that this can be secured as recommended by the Committee on Educational Research.

The investigation into the conditions of success in college has been carried forward. The attainments of students in college work for the past four years have shown that prediction can be made with great accuracy regarding the inability of a certain number of entering freshmen to do satisfactory work. The evidences which have been studied in this connection include the high school subjects studied, the election of advanced work in high school, examinations in English grammar and composition, reading tests, the scholarship record during the high school course, special tests of aptitude for college work (so-called intelligence tests), teachers' estimates of college aptitude, teachers' estimates of character factors making for success in college (such as interest, industry, perseverance, determination, concentration, and clearness of objectives), and examinations on the content of the high school course. The various forms of teachers' estimates are being investigated further but the combination of the college aptitude tests with the high school record gives the most reliable measure of ability for college work thus far found.

During the present year, through arrangements with the high schools of St. Paul and Minneapolis we have been able to prepare ratings of nearly 1,700 high school seniors early in June, and to inform the parents as to the prospects of their children for success in college work. The attention of parents has been called especially to the cases of students whose high ratings give indication of distinguished ability. It is hoped that in another year such information may be furnished in all the larger towns and cities of the state.

The study of the attainments of students in the successive years of their college course shows that a significant fraction of those who attempt the third and fourth years' work have been prevented from entering a professional school by reason of their low scholarship. In many cases they continue work in this college in the same classes with students in the professional school from which they have been barred. These students make a poor record in their senior college work and a good part of them fail of graduation. At the same time many students who are fully able to do good college work are satisfied with a very mediocre or even unsatisfactory record in their first two years. It has seemed to the faculty advantageous to all concerned to make the scholarship requirement for entering the Senior College the same as that for the professional schools. A rule has been adopted, effective in 1927, making an average of C in the work of the Junior College a condition of enrolment in the Senior College.

Upon the recommendation of the Advisory Committee which had given long consideration to the matter, the faculty has recommended that the University offer a degree at the close of two junior college years. A full statement of the reasons for this proposal has been sent to you. To offer this degree now would provide appropriate recognition to the work of many worthy students who now leave college without any evidence of their attainments. It will also be a long step in the direction of the adaptation of college work to the needs of different types of students.

Respectfully submitted,

J. B. JOHNSTON, *Dean*

## THE COLLEGE OF ENGINEERING AND ARCHITECTURE

To the President of the University:

SIR: I beg to submit the following report for the College of Engineering and Architecture for the year 1924-25:

### FACULTY

*New appointments for 1924-25.*—Architecture: Donald C. Heath, instructor; Civil Engineering: Hibbert M. Hill, instructor; Drawing and Descriptive Geometry: Emmett O. Shultz, instructor; Electrical Engineering: Louis Schnell, assistant; Engineering Experiment Station: Rudolph W. Kranz, research fellow; Chemical Engineering: Frank A. Morris, research fellow in mechanical engineering; Mathematics and Mechanics: H. Lyle Smith, instructor.

*Promotions effective in 1924-25.*—From assistant professor to associate professor: F. C. Lang, civil engineering; Robert W. French, drawing and descriptive geometry. From instructor to assistant professor: Leonard F. Boon, civil engineering; Robert F. Schuck, drawing and descriptive geometry; Henry E. Hartig, mathematics and mechanics.

*Leaves of absence during 1924-25.*—Franklin W. Springer, professor of electrical engineering, sabbatic furlough for spring quarter. George L. Tuve, instructor in mechanical engineering, to teach at Montana State College. Roderic W. Siler, assistant professor of mathematics, sabbatic furlough for travel and study in Europe.

*Resignations effective for 1924-25.*—Architecture: Paul Gauger, lecturer; John Dawson, instructor; Civil Engineering: Joseph A. Wise, instructor (spring quarter), to accept a commission in the Engineering Corps of the U.S. Navy; Berry E. Brevik, instructor, to take position at Iowa State College; Drawing and Descriptive Geometry: Claude W. Campbell, instructor; Mechanical Engineering: Victor Gauvreau, assistant professor; Charles C. Sampson, instructor.

### STUDENTS

#### ATTENDANCE BY QUARTERS FALL QUARTER, 1924-25

	Fresh- men	Sopho- mores	juniors	Seniors	Un- classified	Total
Architecture .....	55	26	11	16	2	110
Architectural Engineering ...	4	16	11	8	..	39
Engineering Pre-Business ...	4	9	..	..	..	13
Interior Decoration .....	..	..	2	4	..	6
Civil Engineering .....	81	74	50	65	..	270
Electrical Engineering .....	154	92	88	68	..	402
Mechanical Engineering .....	39	49	32	28	..	148
Undetermined .....	34	..	..	..	..	34
Total, 1924-25 .....	371	266	194	189	2	1,022
Total, 1923-24 .....	373	267	197	183	1	1,021

## THE PRESIDENT'S REPORT

## WINTER QUARTER, 1924-25

	Fresh- men	Sopho- mores	Juniors	Seniors	Un- classified	Total
Architecture .....	52	21	10	13	3	99
Architectural Engineering ...	3	15	12	8	1	39
Engineering Pre-Business ...	2	8	..	..	..	10
Interior Decoration .....	..	..	2	5	..	7
Civil Engineering .....	60	78	50	65	..	253
Electrical Engineering .....	125	87	88	71	..	371
Mechanical Engineering .....	36	47	33	30	..	146
Undetermined .....	57	..	..	..	..	57
Total, 1924-25 .....	335	256	195	192	4	982
Total, 1923-24 .....	330	252	199	188	1	970

## SPRING QUARTER, 1924-25

	Fresh- men	Sopho- mores	Juniors	Seniors	Un- classified	Total
Architecture .....	41	25	11	11	4	92
Architectural Engineering ...	5	14	11	9	..	39
Engineering Pre-Business ...	..	8	..	..	..	8
Interior Decoration .....	..	..	4	5	..	9
Civil Engineering .....	60	63	50	46	..	219
Electrical Engineering .....	103	93	79	67	..	342
Mechanical Engineering .....	35	48	32	29	..	144
Undetermined .....	39	1	..	..	..	40
Total, 1924-25 .....	283	252	187	167	4	893
Total, 1923-24 .....	284	237	197	163	4	885

## DEGREES CONFERRED, 1924-25

	Fall 1924	Dec. 1924	March 1925	June 1925	Total
Bachelor of Science in					
Architecture .....	..	4	2	7	13
Architectural engineering .....	..	..	..	4	4
Interior decoration .....	..	..	..	4	4
Civil engineering .....	..	1	18	35	54
Electrical engineering .....	3	2	1	60	66
Mechanical engineering .....	..	..	..	26	26
Total, 1924-25 .....	3	7	21	136	167
Total, 1923-24 .....	2	8	25	137	172

## NEW COURSES AND DEGREES

Altho the curriculum in Interior Decoration has been in existence for several years, the students have been registered in the College of Science, Literature, and the Arts and have received the academic degree of bachelor of science upon the completion of the course. During the



past year, however, the Board of Regents established the professional degree of bachelor of science in interior decoration, and an arrangement was perfected whereby the third and fourth years of the course would be spent in the College of Engineering and Architecture. In accordance with this plan, the students graduating at the end of the current year received the new professional degree.

For several years, the desirability of a professional course in Agricultural Engineering has been discussed. Near the close of this year, upon the joint recommendation of the dean of the Department of Agriculture and the dean of the College of Engineering and Architecture, the Board of Regents approved the establishment of a four-year course leading to the degree of bachelor of science in agricultural engineering. It will go into effect in the fall of 1925. The new curriculum will be under the joint control of the dean of the College of Agriculture and the dean of this college. The students will be registered in the College of Engineering and Architecture and will graduate from that college. The professional department which is directly responsible for the course is the Division of Agricultural Engineering in the College of Agriculture, Forestry, and Home Economics. The entrance requirements for the new course and the freshman year of the curriculum will be the same as for Civil, Electrical, and Mechanical Engineering. The number of credits required for graduation, however, will be 210, that is, six greater than those of the above courses. It has been possible to arrange this curriculum almost entirely from existing courses in the two colleges, so that it is not expected that additional instructing staff will be required in the immediate future.

### BUILDINGS

The Board of Regents has approved the construction of an addition to the Experimental Engineering Laboratories, to provide space for highway laboratory work. It is expected that this addition will be constructed at once. According to an arrangement with the Minnesota Highway Department, a portion of the new building will be rented to that department to accommodate its laboratories, which, up to the present year, have been housed in the Experimental Engineering Building. About one third of the proposed building will be thus rented. Another third will be used for instruction in highway engineering, and the remainder will be used jointly for instruction in highway and structural engineering and for the testing work of the Minnesota Highway Department. By this plan of co-operation, the Highway Department will have the use of the laboratory facilities, and the university instruction and research will receive added stimulation through the close contact with the practical operations of the state highway system. Associate Professor Lang, in charge of highway engineering, is on part time and serves also as engineer of tests and inspection for the Highway Department.

Respectfully submitted,  
O. M. LELAND, *Dean*

## THE DEPARTMENT OF AGRICULTURE

*To the President of the University:*

SIR: I have the honor to submit the following report of the work of the Department of Agriculture for the year 1924-25.

### THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

The registration figures for the past year show a decrease of approximately five per cent for the whole college. The loss was chiefly in the agricultural group and to a slightly less extent in home economics. The total decrease is less than that of last year over the year before. It seems probable that the low point in registration has been almost reached, if not already passed, and there is reason for believing that the coming year will show an increase in the registration.

During the year a new course of study leading to the degree of bachelor of science in agricultural engineering has been developed in co-operation with the College of Engineering and Architecture. The course is to be administered jointly between the two colleges, and the students will receive training in fundamental agricultural subjects and engineering applied to farm problems. It is hoped to put this course in operation during the year 1925-26. The development of mechanical appliances in the agriculture of today has brought an increased demand for knowledge and training in engineering fields connected with agriculture, and it is hoped that the new course will contribute to this need.

A new course of study has also been offered in the agricultural sciences. Students who plan to become specialists in one of the various special sciences in the agricultural field are given the opportunity of preparing for such specification by selecting a broader and better basis in the fundamental sciences during the early part of their college course. This allows them to correlate more closely and to better advantage their technical agricultural work with their special science in the junior and senior years.

The honor point or quality credit system has now been in operation in the college for several years. It has undoubtedly been a means of raising the standard of scholarship.

There has been inaugurated this year, through the courtesy of the Department of Psychology of the College of Science, Literature, and the Arts, a system of intelligence tests for all freshmen entering in the fall quarter. These tests are not used as a basis for entrance but have been found of considerable use in evaluating the work and conduct of students and in advising students as to their future possibilities. In connection with these tests, personal information is obtained which is also of considerable value. It is hoped to continue these in the future.

A bulletin giving vocational information relative to agriculture, forestry, and home economics was prepared and sent to the high schools of the state. The purpose of the bulletin is to show the opportunities in agriculture, forestry, home economics and in fields related to each of these subjects for those who complete the four years undergraduate training in the college.

#### THE SCHOOLS OF AGRICULTURE

It would seem that the improvement in the economic condition of the farmers of the state in 1924 had a favorable influence on the enrolments in the various schools. At University Farm, the total enrolment for 1924-25 was 401; the enrolment during the fall term dropped to 244 which is the lowest attendance record for any fall term in the last five years. This situation was due in part to the withdrawal of practically all world war veterans from attendance at the school. But in the winter term there was a marked increase in attendance as indicated by the enrolment of 379.

The Northwest School at Crookston had an enrolment of 271 which is within 30 of the largest number enrolled in any previous year.

The school at Morris enrolled 325 students during the year which is the largest attendance in the history of the institution and which is beyond its existing dormitory capacity.

Indications point to a heavy enrolment in all three of the schools for the year 1925-26.

#### THE USE OF THE CALEB DORR FUNDS IN THE COLLEGE AND SCHOOLS

Early in the year a considerable increase of Caleb Dorr funds became available for distribution to students attending the college and the schools. Before allotting these funds a careful study based upon the experience of the last five years was made of the scholarship possibilities under this fund. It was the desire of Mr. Dorr to assist "worthy and indigent students" and an earnest endeavor has been made to carry out the spirit of the donor.

In the college the following provisions and allotments have been made:

1. Six scholarships of one hundred dollars each, two for each of the sophomore, junior, and senior classes, are awarded to those students who have demonstrated their worthiness by the highest scholarship averages in their respective classes.

2. Inasmuch as the problem of finding a way to finance themselves is most acute amongst students in the freshman class and often deters worthy students from entering the college, and since the chief problem of such students is getting started in college, twelve scholarships of one hundred dollars each have been established for worthy and indigent students entering the college from the high schools and schools of agriculture of the state. Two of these twelve are awarded to graduates of the schools of agriculture and ten to the graduates of high schools. As far as possible, a wide distribution through the state is attempted, and all high schools are

invited to send nominations. The awards are made on scholarship record of the student, his accomplishment in self-support, his general prospects for leadership, and his objectives and ambitions in a college course.

3. About eight hundred dollars has also been set aside for special grants or self-achievement scholarships for students in college. There is always in the student body a considerable number who are working their way through college, some of them under exceedingly difficult circumstances. Many of these are getting along comfortably, while others are in great need of some slight financial assistance. Circumstances frequently make it impossible for these students to achieve the highest scholastic standing. They, nevertheless, are achieving greatly under the difficulties which they meet. A special committee of the faculty is delegated to obtain as much information as possible concerning these students, and awards or special scholarships, ranging from fifty dollars to one hundred dollars each, are made to such students. Eight awards have been made for the year 1925-26 and the results have been exceedingly gratifying. The students, in every case, have been very worthy and the assistance has been very timely and strikingly appreciated.

4. Fifteen hundred dollars has been set aside as a loan fund for college students. It is the policy of the committee to recommend to students who have reached the junior and senior years to borrow money from this fund if such is necessary for the continuation of their career. Such students are usually more willing to borrow since the time of their remunerative employment is not far distant.

In the schools of agriculture scholarship prizes are provided for in the freshman, junior, and senior years; prizes are also offered for superior attainment in such school activities as essay writing and public speaking.

Scholarships amounting to \$75 each are also offered to young men and women who have made outstanding progress in boys' and girls' club work under the direction of the Division of Agricultural Extension. This gives encouragement to ambitious young people who have made the most of their opportunities in the informal but concrete instruction they have received in club work. Such scholarships furnish an excellent opportunity for showing these young people how to continue with their educational training in agriculture.

#### THE EXTENSION SERVICE

During the year there have been indications of improvement in general attitude on the part of many farmers and certain business interests toward the organized extension work in the state. Farmers have made more use of the Extension Service in the adjustment of their business. The county agent service has been re-established in some counties that have not had agents in the last two or three years. But there is a counteracting situation which calls for the wisest direction on the part of both agents and administrators if the gains mentioned above are to be retained. Reference is made specifically to developments with respect to the larger co-operative marketing movements and the tendency toward co-operative buying. It

is natural for those dissatisfied with the showing made by farm co-operatives to complain to Extension workers and to request that their complaints be taken up with those responsible for conducting the business of the co-operatives. Likewise they are the only local persons available to whom business interests who consider their business adversely affected by co-operatives can complain. The placing of the agents in such situations is likely to create an atmosphere which is anything but favorable for conducting good educational work. Such situations are unavoidable hence the necessity of wisdom on the part of agents and administrators in directing the work.

In its personnel and in its co-operative agencies for accomplishing work, the Extension morale is apparently of very high order, and in a majority of the counties there is a fine and growing respect for the county agent and the program of work under way. This lends emphasis to the necessity of maintaining well-trained men of marked ability and sterling character to represent the Extension Service in local communities. A man of this description is really the starting point for establishing permanent service in most, if not all, of the counties.

Without question the boys' and girls' club work is receiving the enthusiastic support of all agencies in contact with it. It is important that those in charge of it be reasonably conservative; that they supervise well all clubs and their projects; and that they endeavor to make the work more effective by increasing the percentage of club members finishing the year's work rather than by attempting to secure a large increase in enrolment.

An outstanding feature in the plans for club work in 1925-26 will be an attempt to reach the older boys and girls not in school with some definite project. The committee working on this matter feels that the social phase in club activities will need to be particularly stressed and it is attempting to work out types of activities that may include those beyond club age, as well, probably persons up to 24 years of age.

The administrative force of the Extension Service is formulating plans for a rather intensive study of how to render a better type of specialist service to county workers and their people. The study will include consideration of methods with respect to making program schedules for specialists, originating ideas for improving subject-matter material and manner of presenting it, and instituting a more accurate plan for measuring the best procedure in using the specialist service. Not enough is known relative to some of the factors affecting the use of specialists and of the changes which might well be made in the expenditure of funds and methods of work.

### SHORT COURSES

Twelve short courses were conducted under direction from University Farm during the year. All of these, except two, offered very special programs in such subjects as ice cream making, creamery operation, home nursing, beekeeping, and tree nursery management. The registration in courses of this nature ranged from 10 to 216. In the Farmers' and Home

Makers' course and in the one for boys and girls, both of which offered general programs, the registration was 964 and 652, respectively. The total attendance at all short courses directed from University Farm was 2,321.

Two short courses were held at Morris, one for home makers, the other for boys and girls. The total attendance was 575. At Crookston the registration in the course for boys and girls was 273.

In co-operation with the Red River Valley Live Stock Association and other agricultural associations of the valley, the Northwest School and Station conducts an all week program in February of each year for farm men and women. Since it is not feasible to establish a system of registration for those taking advantage of these meetings it is not possible to indicate the attendance, but several thousand attended this year and the week given over to this activity was the outstanding agricultural event of the year in the Red River Valley.

The Northwest School and Station has also encouraged visits from local farmers' organizations during the summer season when the work of the school and station may be studied with profit. During the summer of 1924, 32 farm and community clubs made such visits. It is estimated that 4,000 persons visited the institution in the course of the year.

Respectfully submitted,

W. C. COFFEY, *Dean*

## THE LAW SCHOOL

*To the President of the University:*

SIR: I beg to submit the following report on the Law School for the academic year 1924-25.

*Faculty.*—It is gratifying to be able to report that there have been no resignations from the full time faculty. From 1917 to 1924, nine professors and assistant professors resigned. During this time the number of the full time faculty never exceeded eight. These losses were disintegrating, and it is hoped that they have come to an end. The school is particularly pleased that Professor Wilbur H. Cherry, who has been giving two-thirds time, has declined attractive offers from other schools, and will in the future give full time service. Mr. Justice Homer B. Dibell and Judge Bert Fesler again gave valuable services without remuneration.

*Curriculum.*—While jurisprudence is taught in connection with all subjects, it is now thought advisable to offer an elective course in the senior year. It has already been offered in two summer sessions. The course will give an historical and analytical summary of the field which will help the students to classify the matter. Law will be presented as constantly changing to adapt itself to new social, industrial, and economic situations. The course will liberalize the minds of the students and make them more constructive lawyers in an ever changing world.

*Registration.*—Details of registration will be found in the registrar's report. The total registration was 282, one less than in the preceding year. No effort is being made to increase the number studying law. All the evidence is that the profession in this state is greatly overcrowded. Students in doubt as to a career are dissuaded from entering the legal profession unless they have a strong predilection for it and good mental ability. No profession calls for greater mental ability; and no profession is getting more incompetent persons than the legal profession today. The law school maintains its own standards regardless of the lower requirements for admission to the bar. It takes the position that the state's money should be spent only on those students capable of service to the state in the administration of the law.

*Pre-legal training.*—Forty-four per cent of the freshman class had three or more years of academic work when they entered. The percentage for the last four years has been 17, 28, 39, and 44, respectively. As usual these better prepared students did much better work in law; 72 per cent of them passed all examinations compared to 47 per cent of those with two years of academic work. The comparative percentages for the last four years are: 81 to 39, 80 to 53, 74 to 45, 72 to 47, respectively. Students are being strongly urged to remain in the academic college long enough to qualify for the degree of B.A. Six law schools now require a degree for admission, and five others require three years of college work.

Evidence is accumulating that honor points in pre-legal work from most junior colleges and from some other colleges have not the same significance as those earned in the College of Science, Literature, and the Arts of this University. A comparison for the last three years shows:

	1922-23	1923-24	1924-25
Honor point average of S. L. A.			
Pre-legal work .....	1.22	1.29	1.28
First year law .....	.79	.94	.97
Difference .....	.43	.35	.31
Honor point average of students from junior and other colleges—			
Pre-legal work .....	1.56	1.48	1.39
First year law .....	.70	.75	.58
Difference .....	.86	.73	.81

In 1924-25 eight per cent of the students who had all their pre-legal work at Minnesota were dropped for low scholarship as against twenty-two per cent of those who had all pre-legal work elsewhere.

There is no doubt that uniform application of the honor point requirement is admitting students from other colleges who would not qualify if they came up through the College of Science, Literature, and the Arts of the University. The records of the students from the several colleges are being noted and it may become necessary to require a higher honor point average from many of these colleges to exclude students lacking the minimum attainments required of those who come up through the University.

*Scholarship.*—The entering class was of good quality, and a larger percentage of the class passed in all subjects than in preceding years. Comparison with the preceding year shows:

	1923-24	1924-25
Total number freshmen .....	126	120
Withdrew before final examination .....	13	10
Dropped for low scholarship .....	23	15
Completed year's work without condition .....	63	66
Completed year's work with one condition only .....	18	21
Completed year's work with two conditions only .....	9	8
Total qualified to enter second year .....	90	95

No more striking proof can be given of the improvement in the quality of the students entering the Law School than to compare this result with that of 1921-22, the last year before the honor point requirement was made. In that year out of 156 freshmen only 85 qualified to enter the second year class.

*Improvement of the law.*—Professors Wilbur H. Cherry and R. Justin Miller gave much assistance to the State Bar Association, the District Judges' Association, the Probate Judges Association, and the County Attorneys Association in drafting new probate rules, bills on criminal procedure, and other matters. The faculty wishes to co-operate with every agency in the state working for improvement of the law, and finds its



services welcomed. This phase of the school's work is only beginning, and is sure to grow in importance.

*Library.*—During the year, 1,227 volumes were added to the library, making a total of 40,232. With the \$1,000 increase in appropriation, 998 volumes were rebound. Much rebinding remains to be done. The stack-room space is inadequate, but this cannot be remedied in the present building.

*Minnesota Law Review.*—The *Law Review* continues to prosper. The subscription list contained 681 members of the State Bar Association, 196 students, and 342 lawyers, judges, and libraries in Minnesota, other states and foreign countries, a total of 1,219. The arrangement with the Minnesota State Bar Association has proved profitable to the association. It has induced members to pay their dues with the result that the association, which was in debt when the contract was entered into, now has \$1,400 surplus in its treasury. The surplus of the *Review* for the year was approximately \$1,000, and the accumulated surplus is now approximately \$4,700.

Respectfully submitted,

EVERETT FRASER, *Dean*

## THE MEDICAL SCHOOL

*To the President of the University:*

SIR: During the year 1924-25 additions to the faculty have been made by the appointments of Dr. Robert L. Starkey as instructor in bacteriology; Dr. David M. Siperstein as instructor in pediatrics; Dr. Grace Medes as instructor in physiological chemistry; Miss Corah V. Lund as instructor in nursing; Dr. Harry DeWitt Lees as instructor in preventive medicine and public health; Dr. Reuben A. Johnson as instructor in medicine; Dr. John F. Fulton as emeritus professor of ophthalmology; Dr. Frederick E. B. Foley as instructor in urology; Miss Mae E. Colton as instructor in nursing.

The following promotions have been made: Marion L. Vannier as director of the School of Nursing and associate professor in nursing; from instructor to assistant professor, Dr. Walter E. Camp and Dr. John A. Lepak; from assistant to instructor, Dr. Minas Joannides; from teaching fellow to instructor, Halvor O. Halvorson and Dr. L. F. Richdorf.

*Resignations.*—Dr. A. C. Strachauer as chief of the Department of Surgery; Dr. Angus L. Cameron, assistant professor of surgery; Dr. F. W. Wittich, assistant professor of medicine; Miss Alma Haupt, instructor in preventive medicine and public health; Dr. John T. Noble, instructor in pathology; Dr. Henry Odland, instructor in dermatology and syphilis; Miss Irene Waish, instructor in nursing; Dr. Fred G. Carter, assistant in surgery.

Of the losses from the faculty those of Dr. MacLaren by death, and Dr. Beard by retirement, will long be felt in the Medical School.

Dr. MacLaren had served the school many years as an unpaid teacher and consultant at the University Hospital. He was an outstanding man professionally, and exceptional in the earnestness and promptness with which he carried on his university work. The University of Minnesota owes him a great debt.

With the close of the fiscal year 1924-25 Dr. Richard O. Beard reached the age limit and retired on the Carnegie pension, with the emeritus rank of professor of physiology. Dr. Beard was the last member of the original faculty of the Medical School. For almost its whole life he has been secretary of the school. At a comparatively early time for such action he gave up private practice and devoted his talents and energy to medical education. No man ever gave himself more unreservedly to any cause, and there has been no advance in medical or nursing education in Minnesota in which his initiative and judgment have not been represented. While not hereafter to be in the employ of the University it is expected that Dr. Beard will continue to act as chairman of the Medical School Endowment Committee. We shall have, we trust, the benefit of his advice for a long time to come.

Dr. Arthur C. Strachauer has resigned his chiefship of the Department of Surgery in order to become director of the Cancer Institute. He will retain his professorship in surgery, and the school will not lose his excellent services as a teacher, administrator, and accomplished surgeon.

This change will enable the school to take another forward step toward a full time staff in the clinical departments. The ideal is to have the head of each practical branch and a certain number of his associates on a full university basis. Besides these, volunteer part time men will be used as clinical teachers. A beginning was made last year in Pediatrics, and Surgery can now be organized in the same way.

The search so far has revealed only a small number of young men who have prepared themselves for a career of research and teaching apart from active practice. Still the number of such men is increasing; and if no surgeon is found at once, it is believed to be good policy to wait a year before filling the chair.

While no one can gainsay that we have had interested and excellent service from our part time men it is plain that medical teaching, like that in law and engineering, requires the full thought and strength of its professors. The conduct of research and the leadership of graduate students demand constant supervision. The ideals of scholarship are not adequately fostered by men engaged in the business of medical practice. Furthermore when our departments are in the hands of full time teachers the school will be freed from the criticism—largely undeserved but nevertheless widespread—that it is allied with the business side of the medical profession.

Early in the session of 1924-25 the General Education Board of New York, to which the plans for expansion of the Medical School had been presented, voted to allot \$1,250,000 to the University of Minnesota on condition that the remaining \$2,350,000 needed to carry out the plans be raised either from public or private sources. Mr. William Eustis immediately announced a further gift of \$50,000 toward the hospital and home for crippled children. A part at least of this gift will be available to meet the terms of the General Education Board's conditional bequest.

A part of the plan of expansion of the school is the proposal that the Minneapolis General Hospital, whenever a new one is built, be placed on land to be donated by the University contiguous to the campus. Further efforts to raise the University's share of the expansion fund have been delayed pending action by the authorities of the city of Minneapolis. It is expected that a decision on the part of the city will be reached at an early date, and that the campaign for the completion of the fund can be rapidly pushed along. Iowa and Michigan now have complete and modern buildings and hospital for their medical schools. Wisconsin, Nebraska, and Illinois have made greater progress than Minnesota. Our enviable history, excellent standing, and strategic geographical position render it imperative that the Medical School of the University of Minnesota be completed at the earliest possible moment. At present our laboratories are overcrowded and our hospital is insufficient for the student body, and lacking in several lines of disease and treatment. We have no nurses' home. All these handicap

our work and, most of all, hinder our efforts to secure teachers and investigators of high standing for the faculty.

During the last year the Todd Memorial Building for Eye, Ear, Nose, and Throat Diseases and the Cancer Institute have been completed, and will be occupied about September 1. These pavilions will add about 100 beds to our hospital, including much needed private rooms. They will contain first-class facilities, including radium and high-powered X-ray apparatus for the treatment of cancer. From the teaching standpoint an important feature is a new clinical amphitheater fitted out with a stethophone by which 150 students at one time may listen to the heart or respiration of a patient.

Three years ago the school increased the limit of the freshman and sophomore classes to 100 students in each class, and the junior and senior classes to 112 each. This limit has now been practically reached in all classes and could be largely exceeded if the facilities and strength of the teaching staff would permit. For statistics of attendance see the registrar's report.

The graduate teaching and research done in the Medical School are increasing steadily. We are turning out some excellently prepared men in the pre-clinical branches and in the various specialties. Our young men with advanced degrees are being called to important positions elsewhere; and one, Dr. Maurice Visscher, has received a National Research Council fellowship. As its contributions to thought and leadership are the marks of a real university, the Medical School feels that it is adding to the prestige and influence of the institution of which it is a part.

The reports of the School of Nursing and the University Hospital are appended.

Respectfully submitted,  
E. P. LYON, *Dean*

### THE SCHOOL OF NURSING

The following report is submitted by the School of Nursing for the year July 1, 1924, to June 30, 1925:

#### UNIVERSITY CENTRAL SCHOOL OF NURSING

	First Year	Second Year	Third Year	Total
Students entered to June 30, 1924.....	68	80	52	200
Students entered September, 1924 .....	..	..	..	86
Students entered April, 1925 .....	..	..	..	17
Total registration during the year July 1, 1924, to June 30, 1925.....				303
Registrations cancelled .....	..	..	..	38
Students completing course.....	..	..	..	47
Present total June 30, 1925.....	82	57	79	218

## AFFILIATING STUDENTS (FROM OTHER SCHOOLS)

Students entered to June 30, 1924.....	77
New students July 1, 1924, to June 30, 1925, inclusive.....	132
Total registration .....	209
Students finishing course.....	97
Registration cancelled .....	12
Present total June 30, 1925.....	100

## FIVE-YEAR COURSE IN ARTS AND NURSING

In College of Science, Literature, and the Arts.....	25
In School of Nursing.....	19
Total registration June 30, 1925.....	44
Students graduated June 15, 1925.....	4
Art and Nursing students registered in College of Science, Literature, and the Arts .....	25
University Central School of Nursing	
Regular students .....	218*
Affiliating students .....	100
Total registration June 30, 1925.....	343

An increasing interest is being taken in the courses in Nursing Education. Registration in both the three-year and five-year courses has more than doubled in the past three years. The success of the University central school seems to be assured, and justifies, in full measure, the faith and vision of its first director, Miss Louise M. Powell, who resigned in August, 1924, to accept a position as dean of the School of Nursing at Western Reserve University, Cleveland, Ohio.

The steady progress of the school is due to the broad educational ideals and the sound organization on which it was based; and credit for this is due to Miss Powell and to Dr. Richard Olding Beard, the two people most vitally interested in its origin, both of whom have, during the past year, severed their official connection with the work of the school, Miss Powell by removal to another state and Dr. Beard because of his retirement from the staff of the Medical School. We are fortunate, however, in having Dr. Beard continue his connection with the School of Nursing, in an advisory capacity, as a member of the School of Nursing Committee, even tho he will no longer contribute to the course as a professor of physiology.

On October 15, the tuberculosis department of the Minneapolis General Hospital was taken over by the Glen Lake Sanatorium and the students now have the advantage of the increased educational and clinical facilities offered there, as well as the out-of-door sports and the attractive living conditions afforded by the new nurses' residence at Glen Lake.

A spectacular demonstration of the fact that the University School of Nursing is of real public service to the state, was given when the burden of providing for the nursing care of 450 cases of smallpox, many of them malignant, admitted to the Minneapolis General Hospital, during the epidemic of last winter, was thrown upon the students of the school. They

\* Including 19 Arts and Nursing students registered in the School of Nursing.

met, in addition, the added responsibility of caring for all other infectious diseases admitted during that period. This was an exacting and an heroic test. The school emerged from that ordeal with the loss of one student, who died of hemorrhagic smallpox at the height of the epidemic. We have the satisfaction, however, of knowing that these unfortunate patients were given intelligent and sympathetic care and that the student body carried this heavy responsibility in the fine spirit of unselfish service. Not one among them showed the slightest unwillingness to accept this depressing and difficult duty.

It is a pleasure to report that one of our students was recommended for Phi Beta Kappa this year, upon her record of superior scholarship.

In spite of the lack of proper housing space, and the inconvenience and risk to students occasioned by overcrowding, the school has steadily grown. We feel, however, that the high percentage of illness recorded during the past year is due in part to this unfortunate situation, and we look forward to the time when these young women who render such a real service to the state of Minnesota, are cared for in a way that makes them feel that the state really appreciates their worth.

Respectfully submitted,  
MARION L. VANNIER, *Director*

### THE UNIVERSITY HOSPITAL

The following report of the Elliot Memorial Hospital is submitted for the year ending June 30, 1925.

<i>Hospital (Statistical)</i>	1923-24	1924-25
Patients in hospital at beginning of the period.....	162	154
Patients admitted during the year.....	3,067	2,956
Patients treated during the year.....	3,229	3,110
Total days hospital care.....	59,425	57,543
Average days per patient.....	18	18.5
Highest daily census.....	180	179
Daily average number of patients.....	162	155+
<i>Hospital (Financial)</i>		
Daily average cost per patient (net, exclusive of equip- ment replaced).....	\$2.25	\$2.77
Daily average cost per patient (net, including equipment replaced).....	.....	\$2.98
Daily cost per capita for provisions for all persons supported.....	\$0.342	\$0.374
<i>Out-Patient Department (Statistical)</i>		
New patients treated.....	15,747	15,334
Day clinic.....	15,478	15,097
Night clinic.....	269	237
Total patients' visits made.....	66,127	62,763
Day clinic.....	57,858	55,392
Night clinic.....	8,269	7,371
Average visits per day.....	272.33	258.34
Total prescriptions issued.....	23,529	24,529
Total X-ray requests.....	1,747	2,241
Total optical prescriptions.....	.....	743
Total operations—Nose and Throat Department.....	.....	529

*Out-Patient Department (Financial)*

1. Daily average cost per patient's visit (net) exclusive of Social Service Department (income nose and throat not included) .....	\$0.109	\$0.04
1A. Same as No. 1 including income of nose and throat (net)..... Balance of	\$704.61	None
2. Daily average cost per patient's visit (gross) exclusive of Social Service Department.....	\$0.294	\$0.292
3. Daily average cost per patient's visit (net) inclusive of Social Service Department.....	\$0.22	\$0.19
3A. Same as No. 3 including income from Nose and Throat Department .....	....	\$0.182

SOCIAL SERVICE DEPARTMENT

The following statement of the work of the department covers the twelve months' period ending June 30, 1925, and is taken from the more detailed monthly reports of the department.

*Field of service.*—The major work has been done in the Out-Patient Department where all clinics have been served to some extent and adequate service made available to the diabetic, nervous and mental, obstetrics and gynecology, and syphilis clinics. Brief studies of the gastro-intestinal clinic and the pediatrics clinic were made. More service to patients in the hospital was rendered than previously.

*Students* have been registered for theoretical or practical work as follows:

Home Economics (Dietetics) .....	22
Preventive Medicine (Nursing).....	11
Preventive Medicine (Public Health).....	2
College of Education (Occupational Therapy).....	9
School of Medicine (Technician).....	1
Total .....	45

The development of new courses and arrangements for field work supervision have somewhat decreased the amount of home work with patients for the year but the teaching function of the department has increased, necessitating the assignment of more time to this work.

*Statistical*

Number of individual families with whom we worked.....	827
Number of additional instances of patients assisted without home visiting	5,329
Number of visits made .....	1,411
Number reports given to agencies.....	3,140
Number of agencies co-operated with .....	265
Number instances of such co-operation.....	3,986
Number interviews with patients.....	5,043
Number letters sent .....	4 012
Number pieces educational literature distributed.....	3,572

*Personnel.*—During the above period the members of the department's staff have been as follows: Miss Lydia B. Christ, Miss Mary C. Smith, Miss Rebecca Pond (to July 1, 1925), Miss Mary Roberts, Miss Isabel Gibson (to July 1, 1925), Miss Mildred Johnson, Miss Evelyn Eha (July

29, 1924-April 1, 1925), Miss Jennie Scheie (January, 1925-July, 1925), Miss Marion Tebbets. Miss Jessie McMahon and Miss Jane Leichsenring of the Home Economics Division have assisted in supervision of Home Economic students and thus been members of our staff.

We have been assisted in our work by the cordial co-operation of the members of the medical and the nursing staff and all co-operating agencies.

Respectfully submitted,

MARION TEBBETS, *Director*

The foregoing statistics show, among other things, the effects of continued efforts to develop the pay service and the application of the provisions of the Minnesota General Hospital Act to applicants for admission to the free service, as evidenced by a smaller number of patients admitted and treated during the year as well as a smaller daily average number of patients.

The increase in the charges for dispensary care together with a more careful determination of eligibility of prospective registrants for such care have both tended to reduce the number of patients treated during the year.

The average daily cost per patient increased considerably, the increase being due largely to the necessity of employing a greater number of graduate nurses on general duty and higher food costs.

Respectfully,

L. B. BALDWIN, *Superintendent*



## THE COLLEGE OF DENTISTRY

*To the President of the University:*

SIR: I beg to submit herewith my report for the year 1924-25.

Interest in the college now centers around the shortly forthcoming voluminous publication of the Carnegie Survey of Dental Education. The gist of its findings has recently been published in the *Nineteenth Annual Report of the Carnegie Foundation for the Advancement of Teaching*. It recommends, what was suggested as a probability in the last annual report of this college, a two-three plan of dental education, with two pre-dental years and three years of dental training. Several universities are already working on such a plan, to become operative in 1925-26. The College of Dentistry of the University has already recommended this plan to the regents, as the best immediate step in the advancement of dental education. The establishment of the plan involves also graduate courses for specialists, which is one of the crying needs of dentistry. It is hoped that these can be perfected in the near future.

The college has enjoyed visits during the year from many remote countries, as well as from Europe and the United States.

There has been a slight increase in the number of foreign students.

Extension courses have continued to increase in scope and registration.

There have been the following promotions: from associate professor to professor, Dr. C. O. Flagstad, Dr. C. E. Rudolph, and Dr. Joseph Shellman; from instructor to assistant professor, Dr. R. E. Johnson and Dr. Earl W. Nelson.

Respectfully submitted,

ALFRED OWRE, *Dean*

## THE SCHOOL OF MINES

*To the President of the University:*

SIR: I herewith submit my report for the university year 1924-25.

### SCHOOL OF MINES EXPERIMENT STATION

*Personnel.*—Owing to the completion of the research work provided for by the W. S. Tyler Company, Mr. A. M. Gow and Mr. R. H. Ridgway left the staff of the Mines Experiment Station. Mr. B. J. Larpenteur late in the year was appointed as technical assistant. Owing to the absence of Mr. E. W. Davis, superintendent, and Mr. H. H. Wade who left for Spain early in March on professional work, Mr. J. J. Craig was acting superintendent for three months.

*Newly acquired equipment.*—Little equipment was added during the year owing to the fact that no special equipment fund was available. The shops were busy constructing special apparatus and remodeling old machines and also with the general construction work required for operating the blast furnace and other machines about the laboratory.

*Gifts and loans.*—The Deister Concentrator Company presented us with a Deister-Overstrom Diagonal-Deck concentrator table. The tables which we have had are too small to operate satisfactorily with our new equipment and the Deister Concentrator Company gave us this new table as the result of an investigation made by one of their engineers who visited our plant some time ago. This machine is the same size and design as the tables ordinarily used in the washing plants on the range.

The Dorr Company loaned us a Dorr bowl-type classifier for the purpose of making tests along the lines which are being contemplated in connection with some of the washing plants on the Mesabi Range. By the use of this classifier, it is possible in the case of some ores to do away with all table equipment in these washing plants.

*Publications.*—The following is a list of the publications issued by the station during the year:

- Mining Directory of Minnesota for 1925
- Paper Describing the Design of the Pipe Launder
- Bulletin on Peat (ready for publication)
- Bulletin on the Tyler Research Problem (ready for publication).

*Assays and tests.*—The total number of determinations made in connection with the Mines Experiment Station during the past year was 8,700. The above figure shows conclusively the value of the work of the Experiment Station to the state.

The following tests were made on ores submitted by citizens of the state:

- a. Large scale tests ( $\frac{1}{2}$  ton or more)—96, representing 106 tons
- b. Small scale tests (less than  $\frac{1}{2}$  ton)—36, representing 1,000 pounds
- c. Samples submitted for assays and examination—383
- d. Samples submitted by other departments of the University—17.

*Activities.*—Since no additional appropriation was made by the legislature this year, the work in connection with the peat appropriation has been discontinued.

Investigation of manganiferous ores was closed July first. The past legislature made new appropriations for investigation along this line and we are preparing to continue the investigations based on results already acquired.

As the result of the previous work done by the station a large commercial sintering plant which will utilize a considerable amount of ore, at the present time considered non-merchantable, has been erected on the Cuyuna Range. Owing to the low price of ore, this plant is not in active operation at the present time altho a small tonnage of ore will be put through the plant before the close of navigation. This plant was built by the Minnesota Sintering Company of which Mr. R. M. Adams is vice president and general manager. The company spent approximately \$200,000 on the plant and are now stripping a large property containing this low grade, high moisture ore. Undoubtedly ore from the adjoining mine known as the State Pit and owned by the state will be treated at this plant at some later date.

Mr. E. W. Davis, superintendent, and Mr. H. H. Wade, metallurgist, left for Spain early in March and returned the latter part of May. They made this trip at the request of a large Spanish concern which operates coal mines, blast furnaces, and steel plants as well as many subsidiary companies. This company has a large supply of low grade ore which they wish to use. Their ores are similar in many respects to the low grade ore in Minnesota as they require magnetic and metallic roasting before concentration. The company had already built a furnace for the treatment of its ore and had purchased some equipment in this country. The plant is in operation and is giving more or less satisfactory results. A great deal of information in connection with the problem of reducing iron ores was obtained which will be valuable for use in connection with the work provided for by special appropriation of the past legislature. The Spanish company at the present time is continuing its investigations and is keeping in close touch with the work done in our Experiment Station. The government is interested in this undertaking and is sending over to this country Professor Eustaquie Miranda, of the Escuela Especial de Ingenieros de Minas. Professor Miranda occupies the chair of metallurgy and is coming to our Mines Experiment Station for further study and research.

#### UNITED STATES BUREAU OF MINES

Mr. T. L. Joseph, superintendent of the North Central Station of the United States Bureau of Mines, Department of Commerce, reports substantially as follows:

Several years ago the bureau in co-operation with the Minnesota School of Mines built an experimental iron blast furnace. The purpose of developing such a furnace was to make available to the industries a

piece of equipment with which various problems of vital interest could be investigated at a much smaller cost than would be incurred with full sized equipment. Steel makers and other users of manganese fully appreciate the situation in regard to domestic reserves, and realize that the United States is dependent upon high grade manganiferous ores and ferromanganese. Altho different grades of manganiferous iron ores occur in several districts of the United States, the Cuyuna Range in Minnesota contains the most extensive deposits.

It was therefore natural that the first specialized problem undertaken by the United States Bureau of Mines was the possible utilization of low grade manganiferous iron ores. A new and improved furnace was designed by the bureau and built by the School of Mines of the University of Minnesota. During a recent test, lasting thirty-four days, 136 tons of manganiferous pig iron were made from Cuyuna ores. The run clearly demonstrated that a blast furnace charge made up entirely of these ores could be smelted successfully. This test resulted in much interesting data and marks distinct progress on the manganese problem. It also demonstrated the value and usefulness of an experimental blast furnace of moderate size in the field of industrial research. With a view of helping the iron and steel industry the bureau has been studying the fundamental reactions taking place in the interior of the commercial iron blast furnace. Members of the staff familiar with blast furnace operation were detailed to plants co-operating with the Bureau of Mines. Many operating companies permitted holes to be drilled in their furnace lining at positions specified by the bureau so that temperature and pressure readings could be taken at various positions in the stack. This work is similar to that which has been conducted by the bureau with the experimental blast furnace at the University. The bureau is in exceedingly close contact with the iron industries and is in a position to learn first hand the important problems confronting blast furnace operators.

In addition to the work conducted at various blast furnace plants, laboratory experiments are in progress along the following lines: (a) the reduction of iron ore, (b) the heat transfer from a moving gas stream to a bed of solids, and (c) the pressure required to force gases through beds of irregularly shaped material.

*Personnel.*—The activities of the station are under the direction of T. L. Joseph, metallurgist and superintendent. Other members of the station staff are as follows: P. H. Royster, associate metallurgist; S. P. Kinney, associate metallurgist; F. A. Hartgen, senior aid; W. F. Holbrook, assistant chemist; S. Olson, principal clerk; P. A. Johnson and J. A. T. Addison, skilled laborers. At intervals when special furnace tests were made it was necessary to employ approximately twenty-five laborers in addition to those regularly employed.

#### MINNESOTA TAX COMMISSION

*Object.*—The School of Mines still continues its service to the State Tax Commission. The ore estimates, as checked and submitted, are used as a basis for the valuation of mineral properties in the state of Minnesota.

*Services.*—Owing to the fact that our report to the Tax Commission is made biennially, no information appears in the President's report of 1923-24.

During the biennium ending September 1, 1924, the School of Mines made reports to the Tax Commission on a total of 155 properties. These reports covering properties of the three iron ranges involve a total of 269,379,468 tons of bessemer, nonbessemer, and manganiferous iron ores. This is a net increase of 45,581,031 tons for the biennium.

In addition to the above merchantable tonnage, a total of 35,974,761 tons of non-merchantable ore materials consisting of paint rock, highly silicious ore, and other lean ore was reported. A large part of this tonnage may eventually be taken from the non-merchantable and placed into the merchantable class, depending upon many factors. As the reserves of high grade ores approach depletion the ores of lower grade will naturally take their place. New methods of beneficiation may be developed to reclaim some of them. Blast furnace practice may be so modified as to make the use of some of them possible. The development of new methods and new machinery may reduce the cost of mining and beneficiation to a point where operators can mine some of the present non-marketable ores so as to show a margin of profit. Any one of these factors may result in a large increase in the reserve tonnage of the merchantable ore in the state and a consequent postponement of the final day of exhaustion.

The number of requests from the Tax Commission for information of a technical character have been becoming more numerous as the work done for them by the School of Mines has advanced. During the past two years the Tax Commission has requested the School of Mines to examine several properties which were either entirely unexplored or only partially explored, but on which appreciable tonnages of ore were indicated by the exploration on adjoining property. The School of Mines at the special request of the Tax Commission has examined all of the data and after making probable assumptions has made estimates, the results of which were submitted to the Tax Commission for their guidance. In this way 15,970,902 tons of ore which had never been taxed before, were placed on the tax rolls in 1923 alone. The assessed valuation placed on this ore was \$2,567,473 and the taxes paid in 1923 amounted to \$196,069.05. The state's share of this was \$20,539.78. The School of Mines has requests for reports of this kind at the present time.

Ten trips, requiring forty-eight days of field work for two men, were taken to the mining districts of Minnesota. This field work is essential, especially in the case of operating mines, in order that the mining conditions may be personally observed and mining officials can be consulted before estimating and reporting on the tonnage involved.

*Personnel.*—Mr. E. M. Lambert, assisted by Mr. A. J. Carlson, continues in charge of the work. The hearty co-operation of the officials of the various mining companies is evidence of the cordial relations existing. Many expressions of appreciation of this branch of service to the state come to us, both from the Tax Commission and the mining companies.

## EDUCATION

*Registration.*—The total registration during the year was 79, distributed as follows:

Seniors .....	14
Juniors .....	16
Sophomores .....	24
Freshmen .....	25
Total .....	79

*Geographical distribution of students.*—The above students were registered from Minnesota counties as follows:

Becker .....	1	Lyon .....	1
Bigstone .....	1	McLeod .....	1
Cass .....	1	Martin .....	1
Chippewa .....	1	Nicollet .....	1
Chisago .....	1	Ramsey .....	7
Crow Wing .....	1	Renville .....	1
Fillmore .....	1	St. Louis .....	2
Goodhue .....	1	Scott .....	2
Hennepin .....	3	Sibley .....	1
Itasca .....	2	Swift .....	1
Kandiyohi .....	1	Winona .....	2

Students registered from outside the state as follows:

California .....	1	Pennsylvania .....	2
Indiana .....	2	Philippine Islands .....	1
Michigan .....	1	South Dakota .....	1
Missouri .....	1	Tennessee .....	1
North Dakota .....	1	Wisconsin .....	3
Ohio .....	1		

*Withdrawals.*—During the year, eight students withdrew. These students were distributed by classes as follows:

Seniors .....	0
Juniors .....	1
Sophomores .....	3
Freshmen .....	4

The reasons for these withdrawals were as follows:

Financial .....	4
Scholastic deficiency .....	3
Transferred to other colleges within the University .....	1

*Faculty.*—Again we have lost an instructor on account of the better opportunities outside of the teaching profession. Mr. E. L. Smith, instructor in metallurgy, resigned early in the summer to accept a position with a commercial concern. He had been with us for a number of years, but, as in the case of others, could see little opportunity ahead for adequate remuneration on the staff of the school. Mr. R. W. Allard was transferred to take the place left vacant by the resignation of Mr. Smith, and Mr. Alex M. Gow, who had been working on special problems at the Mines Experiment Station, was appointed instructor in mining to take Mr. Allard's place. No other changes have been made in the faculty.

*Curriculum.*—No changes were made in the curricula of the courses leading to the degrees of engineer of mines and engineer of mines in geology. In that of the course leading to the degree of metallurgical engineer a slight change was made by decreasing the requirement in mine surveying and introducing a short course in mining methods. The requirements of the new course as to time were exactly equivalent to that made available by the decreased work in mine-mapping. The changes mentioned in my report for 1923-24 have worked out even better than we anticipated, as the course in general geology furnishes an excellent background for the courses in mineralogy.

During May work in first aid and mine rescue was given to our junior class, with the assistance of the crew and the use of the apparatus on the United States Bureau of Mines' Rescue car, assigned to this district. The state safety instructors attended the classes and received the training with our students.

*Attendance.*—The total attendance during the year showed a decrease from the previous year, a condition apparently true of all mining schools. The opinion seems to be prevalent that the condition is merely temporary and that with the return of the mining industry to settled conditions the enrolment of the various schools will again become normal.

Respectfully submitted,

W. R. APPLEBY, *Dean*

## THE COLLEGE OF PHARMACY

*To the President of the University:*

SIR: I beg leave herewith to submit the College of Pharmacy report for the year 1924-25.

*Graduation.*—The college completed its thirty-third year on June 15, 1925, which was also the date of the thirty-second commencement of the college. A total of twenty-nine students graduated, six of whom took two degrees, so that thirty-five diplomas were rewarded.

*Registration.*—The registration reached a total of one hundred seventy-seven. The faculty gave instruction to an additional one hundred six medical students. During the year twenty-nine students withdrew from the college for reasons which have been reported to the registrar and are on record in his office.

*Scholarship prizes.*—The second Lehn & Fink Gold Medal for the highest general standing at the end of the four-year course, was awarded to Mr. Ralph Elsenpeter of Maple Lake, Minnesota.

Mr. Harold Landeen won the Minnesota State Pharmaceutical Association annual scholarship prize of \$105 for the payment of next year's tuition. The prize is awarded annually for the highest general average in all subjects of the first and second years.

*Changes in staff.*—Instructor Martin B. Chittick resigned as of January 1, 1925, to accept a responsible position as factory manager of an oil company in Cincinnati. No suitable successor was found. Mr. William J. Zwirn, one of last year's graduates, was appointed temporarily and served for the rest of the year. No successor to Mr. Chittick has as yet been found.

*Pharmaceutical research.*—The faculty carried on its usual amount of research, much of which was in connection with the revision of the United States Pharmacopoeia. Details concerning this work may be obtained from my office.

*Instruction.*—Because of the increased enrolment more than the usual difficulties were encountered in keeping instructional and scholastic standards at the marks we have set for them. Altho the student body increased thirty per cent in number, no additions were made to the staff.

The usual educational trips to botanical fields and manufacturing laboratories were made by the several classes. The classes also attended and participated in the meetings of the scientific and practical sections of the Minnesota State Pharmaceutical Association in St. Paul during February.

*College exhibit.*—The college did not participate in the Northwest Drug Exposition held at St. Paul in February as it did the year before, because of the work and expense that would have been involved. The large enrolment precluded occupation by the faculty in any but the regular heavy work of the college.



*Building and equipment needs.*—The need of larger quarters and more equipment has already been brought to your attention. The situation in the college during the past year was one that cannot be continued except at the cost of standards and quality of work.

*The State Pharmaceutical Association.*—The relation of the association and its repeated recommendations and requests for a minimum four-year course, have been brought to your attention repeatedly through other communications and need not be brought forth again here.

*Supplies budget.*—The addition to the supplies budget of \$15 per full year student, helped out the supplies situation materially and the college found it possible to keep within the supplies budget which totaled around \$5,500.

*Free dispensary.*—Instruction of the senior class in the dispensing of physicians' prescriptions in the free dispensary as an auxiliary practice to the regular course in dispensing, was continued. The dispensary filled a total of around 24,629 prescriptions.

*Pharmaceutical service.*—The college continued its usual service of supplying drugs and preparations of its own manufacture to the hospital, free dispensary, Health Service, Dental College, and other university departments and to those pharmacists who had physicians' specifications for digitalis of our production. There were fewer requests than usual for free examination or analysis of proprietary and other medicines.

*Medicinal plant garden.*—The increased enrolment severely taxed the capacity of the medicinal plant garden and of the medicinal plant laboratory. For the coming year, some relief in this respect is in sight because of the arrangement whereby the college is to occupy, progressively, the botanical grounds on University Avenue as the Department of Botany vacates them.

Respectfully yours,

FREDERICK J. WULLING, *Dean*

## THE SCHOOL OF CHEMISTRY

To the President of the University:

SIR: I beg to submit the following report for the School of Chemistry for the year 1924-25.

### FACULTY

The following changes in the instructing staff above the rank of assistant have been in effect during the year:

*New appointments.*—Ralph E. Montonna, Ph.D., assistant professor of chemical engineering, coming from Yale University.

*Promotions.*—M. Cannon Sneed, Ph.D., from associate professor to professor of general inorganic chemistry; Frank H. MacDougall, Ph.D., from associate professor to professor of physical chemistry; I. W. Geiger, Ph.D., from assistant professor to associate professor of analytical chemistry.

*Absent on sabbatic furlough.*—Paul H. M.-P. Brinton, Ph.D., professor of analytical chemistry, for study in Paris and London.

*Absent on leave.*—George H. Montillon, M.S. (Ch.E.), assistant professor of chemical engineering, for graduate study at the University of Michigan.

*Resignation.*—Lawrence M. Henderson, Ph.D., assistant professor of physical chemistry, to accept a position as research chemist with the Atlantic Refining Company at Philadelphia, Pennsylvania.

### STUDENTS ATTENDANCE BY QUARTERS, 1924-25

	Freshmen	Sophomores	Juniors	Seniors	Total
<b>FALL</b>					
Chemistry .....	17	6	9	11	43
Chemical engineering .....	46	37	23	19	125
Total .....	63	43	32	30	168
Total, previous year.....	..	..	..	..	(125)
<b>WINTER</b>					
Chemistry .....	15	6	8	9	37
Chemical engineering .....	43	34	23	16	116
Total .....	58	40	31	24	153
Total, previous year.....	..	..	..	..	(118)
<b>SPRING</b>					
Chemistry .....	13	7	7	8	35
Chemical engineering .....	38	28	23	15	104
Total .....	51	35	30	23	139
Total, previous year.....	..	..	..	..	(110)

## DEGREES CONFERRED, 1924-25

	Fall 1924	Winter 1925	Spring 1925	Total
BACHELOR OF SCIENCE IN				
Chemistry .....	..	..	5	5
Chemical engineering .....	..	2	11	13
Total, 1924-25 .....	..	2	16	18
Total, previous year.....	..	..	(12)	(12)

## AMOUNT OF INSTRUCTION

The total amount of instruction for the year, exclusive of research and thesis work of graduate students, but including the previous Summer Session, has been 22,632 student quarter credits. The corresponding figure for the year 1923-24 was 22,080 student quarter credits.

## CURRICULA

The American Institute of Chemical Engineers has made a detailed study of chemical engineering curricula in the various universities of the United States. As a result, the institute, at its 1925 meeting in Providence, rated fourteen schools as giving satisfactory courses for this profession. The University of Minnesota is one of these, the remaining thirteen being Armour Institute, Brooklyn Polytechnic Institute, Carnegie Institute of Technology, Case School of Applied Science, University of Cincinnati, Columbia University, Iowa State College, Massachusetts Institute of Technology, University of Michigan, Ohio State University, Rensselaer Polytechnic Institute, University of Wisconsin, and Yale University.

For many years the School of Chemistry and the College of Science, Literature, and the Arts have provided a five-year course in Arts and Chemistry, leading to the degrees of B.A. at the end of four years and B.S. (Chem.) at the close of the fifth year. As a result of the fact that students may register in the Graduate School for the fifth year, obtaining the same courses but with the Master's degree instead of the B.S. (Chem.), and also in view of the fact that the tuition in the Graduate School is only one third as much as in the School of Chemistry, the number of students taking the five-year course as arranged has been greatly reduced. Therefore, the faculty has decided to discontinue the five-year course as no longer necessary.

## SPECIAL LECTURES

The following program of lectures was carried out during the year under the joint auspices of Alpha Kappa Epsilon, professional chemical sorority, Alpha Chi Sigma, professional chemical fraternity, Iota Sigma Pi, honorary chemical sorority, and Phi Lambda Upsilon, honorary chemical fraternity:

The Nature and Cause of Cancer, by E. T. Bell, Department of Pathology.  
 The Plant Laboratory, by J. A. Harris, Department of Botany.  
 Dyeing, Past and Present, by G. B. Frankforter, School of Chemistry.  
 The Modern Atom, by J. T. Tate, Department of Physics.

### THIRD NATIONAL COLLOID SYMPOSIUM

From June 17 to 19, 1925, the Third National Colloid Symposium was held at the University of Minnesota under the direction of the Colloid Committee of the National Research Council. The first symposium had been held at the University of Wisconsin in 1923, and the second, in 1924, at Northwestern University.

The program included the following list of papers:

1. Molecular Weight and Solution, by W. D. Bancroft, Cornell University.
2. Some New Aspects of the Surface Tension of Colloidal Solutions Which Have Led to the Determination of Molecular Dimensions, by Lecomte du Nouy, Rockefeller Institute for Medical Research.
3. The Orientation and Distribution of Molecules, by Irving Langmuir, General Electric Company.
4. Photographic Sensitivity, by S. E. Sheppard, Eastman Kodak Company.
5. Adsorption, by Herbert Freundlich, Kaiser Wilhelm-Institute, Berlin.
6. Catalysis by Metallized Silica Gels, by L. H. Reyerson, University of Minnesota.
7. Colloidal Water and Ice, by Howard T. Barnes, McGill University.
8. Colloid Chemistry of Rennet Coagulation, by L. S. Palmer and G. A. Richardson, University of Minnesota.
9. Colloid Chemistry of Protoplasm, by L. V. Heilbrunn, University of Michigan.
10. Antigenic Properties of Bacterial Toxins Neutralized by Surface Tension Depressions, by W. B. Larson, R. D. Evans, H. O. Halverson, University of Minnesota Medical School.
11. Physico-Chemical Studies on Blood Coagulation, by I. N. Kugelmass, Yale University Medical School.
12. The Effect of Anions on the Colloidal and Chemical Properties of Aluminum Hydroxide, by Lewis B. Miller, U. S. Public Health Service.
13. The Nature of Soil Colloids, by Philip L. Gile, U. S. Bureau of Soils, Washington, D. C.
14. The Colloid Chemistry of Soils, by E. Truog, University of Wisconsin.
15. Soil Water, by F. J. Alway, University of Minnesota.
16. Colloids in Geology, by W. J. Mead, University of Wisconsin.
17. Lithopones, by C. A. Mann, University of Minnesota.
18. The Plasticity Problems of Rubber, by W. J. Kelly, Goodyear Rubber Company.
19. An Experimental Study of Emulsification on the Basis of Distribution of Size of Particles, by Alfred J. Stamm, University of Wisconsin.
20. The Centrifugal Method for Determination of the Distribution of Size of Particles in Colloidal Solutions, by J. B. Nichols, University of Wisconsin.
21. A Simplified Slit Ultramicroscope, by L. V. Foster, Bausch and Lomb Optical Company, and Jerome Alexander, New York City.
22. The Motion Picture Camera As an Aid to Colloid Research, by E. O. Kraemer, University of Wisconsin, W. G. France, Ohio State University, W. J. Kelly, Goodyear Rubber Company.
23. Elasticity and Structure of Soaps, by William Seifriz, University of Pennsylvania.

The *Journal of Chemical Education* contains this editorial comment:

The third Colloid Symposium . . . constitutes a striking and concrete illustration of the advance and expansion of the science of chemistry in general and colloid chemistry in particular.

The Colloid Symposiums have been, from the first, well-attended, productive and inspiring. This year's meeting was particularly notable from three standpoints:

1. The volume of attendance and the general enthusiasm displayed.
2. The large number of papers offered for presentation,
3. The high standard of scientific merit which prevailed among the papers presented.

The success of the symposium was due in great measure to the preparations made by the local committee under the chairmanship of Dr. R. A. Gortner. The event was one of great significance for the School of Chemistry as well as the chemical departments in other colleges of the University.

Respectfully submitted,

O. M. LELAND, *Dean*

## THE COLLEGE OF EDUCATION

*To the President of the University:*

SIR: I have the honor to report for the College of Education for the year 1924-25 as follows upon two matters of importance:

*Student body.*—The figures of enrolment will be found in tables provided by the registrar of the University. The meaning of these figures may be illustrated by referring to the number of seniors receiving degrees during the year. For the year 1923-24 the number of Bachelor's degrees conferred was 340; corresponding figures for the current year are 376 showing an increase of approximately 10.5 per cent. This rate of increase in the student load has not been maintained for a number of years and there is as yet no apparent slowing down of the growth which began at an accelerated rate immediately after the war.

The increasing number of graduate students in education is more significant than the growth of the undergraduate student body. The continuously surprising figures here are convincing evidence of a growing desire on the part of teachers for extended professional training.

Because of the resultant pressure of the rapidly enlarging student body upon our facilities the latter are in serious need of improvement and expansion.

*Curricula.*—This college has gone rather far in the development of specialized curricula designed for training special teachers and educational workers. For several years past we have been studying the usefulness of these curricula and the need for revision and reorganization. We have under way or completed six separate investigations, using the technique of occupational analysis, the results of which are to be made the basis of such revisions. These studies constitute a large program of research in the field of college education; they should be of much practical value.

In this connection there is one matter worthy of special mention as affecting the work of the college. Through a considerable period of time there has been developing throughout the country a demand for increased technical and professional training for the superintendent of schools. This movement has come to fruition in Minnesota in the following official actions:

1. By the Superintendents' Section of the Minnesota Educational Association:

Be it further resolved that this organization assure commissioner McConnell and his associates of the continued support of its members in the constructive program of education they are endeavoring to carry out in Minnesota.

Be it further resolved that the Superintendents' Section of the M. E. A. go on record as approving the bill now before the legislature to decrease the number of school holidays.

Whereas Dean Haggerty of the College of Education has during these meetings proposed in outline a program for the training of young men for the position of superintendent of schools, this program to be five years in length, to be professional as distinguished from academic in character, and to place emphasis upon the desirability of practice courses in supervision and administration, and

A recommendation that state certificates for public school administration be based on a schedule of qualifications is indicated in this table:

Grade of Certificate	Graduate Of	Hours of Education	Experience	Valid for How Long	Renewal For	Valid for What Schools
Superintendent, First grade	University of Minnesota or equivalent and master's degree in education	35 hours required 16 of which shall be graduate work, 8 in administration of a school system, 4 in field of secondary education other than administration, 4 in field of elementary education other than administration	5 years, 2 of which shall be in superintendency in elementary education	5 years	Life	Superintendent state high school
Superintendent, Second grade	University of Minnesota or equivalent	22 hours required 8 in administration of a school system, 4 in field of secondary education other than administration, 4 in field of elementary education other than administration.	3 years, 1 of which shall be in administration and superintendency in elementary education	3 years	5 years	Superintendent state high school
Principal, First grade	University of Minnesota or equivalent	18 hours required 6 in administration of a school system, 4 in field of elementary education other than administration, 4 in field of secondary education other than administration	3 years as administrator, superintendent or teacher	3 years	5 years	Principal graded school high school department
Principal, Second grade	Equivalent of 3 years T. C. course	15 hours required 4 in administration of a school system, 4 in field of elementary education other than administration, 4 in other than elementary work	2 years	2 years	3 years	Principal graded school

These proposed qualifications are not intended to interfere with the certificate of any superintendent or principal now in the work. Perhaps a superintendent now holding a life certificate should be given a superintendent's certificate of the first grade, good for life. Suitable adjustments to be made in all other certificates now in force.

Whereas this program is of such a nature as to attract young men of ability to the profession of school administration, while at the same time it facilitates the further professional training of men now in service and in this way will tend to promote and establish the profession in Minnesota upon an even firmer basis of service and of public confidence,

Therefore, be it resolved that we indorse the program as thus outlined and tender our co-operation as individuals and as a body to its realization at the University of Minnesota.

2. By the Minnesota State Department of Education:

The superintendent of a state high school shall have the following qualifications:

1. A first grade professional certificate.
2. Twenty-one semester hours of professional training, of which at least twelve semester hours shall be in school administration and supervision.
3. Two years of public school experience in a position in which he has devoted at least one-fourth of each school day to visitation and supervision of the elementary grades.

From this and other evidence easily adducible it is clear that the function of the College of Education in relation to the professional training of school administrators is becoming more clearly defined. We are called upon to provide a program of professional training that will enable young men of ability to learn how to manage, with the co-operation of a corps of trained teachers, a system of public schools, and to instruct, train, and educate the children of the community. This professional training must enable the student to short-circuit the long period of apprenticeship common in the past, and it must give him in a few years the information and skills which the present generation of superintendents has learned through long and trying years of experience. It must provide him with the general and special knowledge necessary to his future work and it must give him the practical training necessary to start him on the way to become an efficient superintendent of schools.

The determination in detail of the content of this professional training is yet to be made. It is a major responsibility of our faculty. The working out of an adequate program will require our best abilities in the immediate future.

M. E. HAGGERTY, *Dean*



## THE GRADUATE SCHOOL

*To the President of the University:*

SIR: I submit herewith the report of the Graduate School for the year 1924-25.

### REGISTRATION

As shown in the first table, the registration in the Graduate School for 1924-25 reached a total of 1,407. The corresponding registration for 1923-24 was 1,333. The statistics published by Walters (*School and Society*, February 7, 1925) indicate that the University of Minnesota ranks fifth in graduate enrolment for non-professional subjects. On this basis, the enrolment at Columbia (November 1, 1924) was 1,920; Chicago 1,162; California 1,046; Harvard 747; and Minnesota 601. The data for total graduate enrolment are not given, but upon this basis Minnesota would rank at least fourth, and possibly third.

#### REGISTRATION 1924-25

Year	Study	Master	Doctor	Engineer	Men	Women	Total
1925.....	83	1,011	306	7	1,017	390	1,407

#### DISTRIBUTION ACCORDING TO YEAR OF GRADUATE WORK

First Year	Second Year	Third Year	Fourth Year
1,085	232	62	28

#### GRADUATE STUDENTS DOING FULL OR PART TIME WORK

	Full Time	Part Time	Total
Men .....	560	457	1,017
Women .....	139	251	390
	699	708	1,407

#### MEMBERS OF STAFF REGISTERED IN GRADUATE SCHOOL

	Men	Women	Total
Instructors doing graduate work*.....	111	26	137
Graduate students serving as assistants.....	94	26	120
Graduate students holding scholarships .....	25	19	44
Teaching fellows .....	42	15	57
Fellows (on Mayo Foundation).....	199	9	208
Fellows .....	8	1	9
	479	96	575

\* Seventeen assistant professors, two associate professors.

## GRADUATE STUDENTS MAJORING IN THE VARIOUS DEPARTMENTS

1924-25

	Men	Women	Total
Agricultural Biochemistry .....	25	8	33
Agricultural Economics .....	12	1	13
Agricultural Education .....	44	..	44
Agronomy and Farm Management.....	14	..	14
Anatomy .....	19	2	21
Animal Biology .....	8	1	9
Animal Husbandry .....	5	..	5
Anthropology .....	1	..	1
Architecture .....	3	..	3
Bacteriology .....	5	2	7
Botany .....	6	11	17
Chemistry .....	30	15	45
Comparative Literature .....	..	3	3
Dairy Husbandry .....	21	..	21
Economics .....	34	8	42
Education .....	88	37	125
Educational Administration .....	148	33	181
Educational Psychology .....	25	18	43
Chemical Engineering .....	17	..	17
Civil Engineering .....	1	..	1
Dermatology .....	8	..	8
Electrical Engineering .....	9	..	9
English .....	17	65	82
Entomology .....	15	2	17
Geography .....	1	..	1
Geology .....	9	1	10
German .....	5	8	13
Greek .....	1	2	3
History .....	37	50	87
Home Economics .....	..	29	29
Horticulture .....	11	..	11
Latin .....	8	7	15
Mathematics .....	16	2	18
Mechanical Engineering .....	6	..	6
Medicine .....	54	..	54
Mineralogy .....	1	..	1
Metallography .....	3	1	4
Neurology .....	6	..	6
Nervous and Mental Diseases .....	1	..	1
Obstetrics and Gynecology .....	6	..	6
Ophthalmology and Oto-Laryngology.....	19	..	19
Parasitology .....	1	..	1
Pathology .....	10	..	10
Pediatrics .....	6	2	8
Petrology .....	1	..	1
Pharmacology .....	3	..	3
Philosophy .....	2	4	6
Physics .....	21	1	22
Physiology and Physiologic Chemistry .....	19	5	24
Plant Breeding .....	9	..	9
Plant Pathology .....	22	1	23
Plant Physiology .....	1	..	1
Political Science .....	22	6	28
Preventive Medicine and Public Health.....	1	3	4

Psychology .....	9	15	24
Radiology .....	2	..	2
Rhetoric .....	1	..	1
Roentgenology .....	1	..	1
Romance Languages .....	11	20	31
Scandinavian Languages .....	3	1	4
Soils .....	5	..	5
Sociology .....	16	24	40
Structural Engineering .....	3	..	3
Surgery .....	94	..	94
Urology .....	7	..	7
Veterinary Medicine .....	4	..	4
	1,017	390	1,407

## MASTERS AND ENGINEERS DEGREES GRANTED IN 1924-25 SHOWN BY DEPARTMENTS

Department	Minnesota Graduates		Other Colleges		Totals		Total
	Men	Women	Men	Women	Men	Women	
Agricultural Biochemistry...	1	..	3	1	4	1	5
Agricultural Economics .....	3	..	1	..	4	..	4
Agricultural Education .....	1	..	1	..	2	..	2
Agronomy .....	..	..	3	..	3	..	3
Anatomy .....	2	..	2	..	4	..	4
Animal Biology .....	..	..	1	..	1	..	1
Animal Husbandry .....	2	..	1	..	3	..	3
Architecture .....	..	..	1	..	1	..	1
Botany .....	..	..	..	1	..	1	1
Chemistry .....	1	..	1	4	2	4	6
Chemical Engineering .....	4	..	2	..	6	..	6
Comparative Literature .....	..	..	..	1	..	1	1
Comparative Philology .....	..	..	1	..	1	..	1
Dairy Husbandry .....	..	..	2	..	2	..	2
Economics .....	3	..	..	..	3	..	3
Education .....	1	..	..	..	1	..	1
Educational Administration.	4	2	3	1	7	3	10
Educational Psychology ....	1	2	..	2	1	4	5
Electrical Engineering .....	4	..	..	..	4	..	4
English .....	1	1	..	..	1	1	2
Entomology .....	..	..	1	..	1	..	1
Geology .....	3	..	..	..	3	..	3
German .....	1	..	..	..	1	..	1
History .....	3	1	2	..	5	1	6
Home Economics .....	..	..	..	2	..	2	2
Mathematics .....	1	..	..	1	1	1	2
Mechanical Engineering ....	3	..	..	..	3	..	3
Medicine .....	1	..	2	..	3	..	3
Metallurgy .....	1	..	..	..	1	..	1
Nervous and Mental Diseases	..	..	1	..	1	..	1
Pathology .....	2	..	1	..	3	..	3
Pharmacology .....	1	..	..	..	1	..	1
Physics .....	..	..	3	..	3	..	3
Physiologic Chemistry .....	..	..	1	..	1	..	1
Physiology .....	2	..	1	..	3	..	3
Plant Breeding .....	1	..	2	..	3	..	3
Plant Pathology .....	..	..	4	..	4	..	4
Political Science .....	3	..	2	..	5	..	5
Psychology .....	..	1	..	2	..	3	3
Public Health .....	..	..	..	1	..	1	1
Romance Languages .....	..	..	2	4	2	4	6
Scandinavian .....	..	..	1	..	1	..	1
Sociology .....	..	..	1	..	1	..	1
Surgery .....	1	..	8	..	9	..	9
Urology .....	..	..	1	..	1	..	1
Totals .....	51	7	55	19	106	27	133

EDUCATIONAL INSTITUTIONS REPRESENTED IN THE  
GRADUATE SCHOOL, 1924-25\*

Adelbert .....	1	Drake .....	2
Alabama .....	2	Dubuque .....	1
Alberta, Canada .....	2	Durham, England .....	1
Ames .....	1	Edinburgh, Scotland .....	1
Arizona .....	1	Fargo .....	1
Arkansas .....	2	Franklin .....	1
Augsburg Seminary .....	10	George Washington .....	2
Augustana Seminary .....	2	Georgetown University .....	1
Austin .....	1	Georgia .....	1
Baker .....	2	Germany .....	3
Basel, Switzerland .....	1	Gonzaga .....	1
Beloit .....	4	Goucher .....	1
Bethany .....	1	Grinnell .....	4
Bluffton .....	1	Grove City College .....	1
Boles College .....	1	Gustavus Adolphus .....	6
Bonn, Germany .....	1	Hamline .....	27
Boston .....	1	Harvard .....	9
Bowdoin .....	1	Hope .....	4
Brown .....	1	Idaho .....	1
Budapest .....	1	Illinois .....	15
Buffalo .....	1	Illinois Wesleyan .....	1
California .....	5	Indiana .....	13
Campion .....	1	Indiana State Normal .....	1
Capitol .....	2	Iowa .....	6
Carleton .....	22	Iowa State .....	16
Catholic University .....	3	James Milliken .....	1
Central .....	1	Jamestown .....	1
Charleston .....	1	Jefferson .....	1
Chicago .....	29	Johns Hopkins .....	4
Chicago (Rush) .....	5	Kansas .....	2
Chile, South America .....	1	Kansas State Agricultural .....	2
Christian Brothers .....	1	Kentucky .....	1
Cincinnati .....	2	Knox .....	3
Clarke College .....	1	Lafayette .....	2
Clemson .....	1	Laval .....	1
Coe .....	2	Lawrence .....	4
Colby .....	1	Leland Stanford .....	4
Colorado .....	8	Lewis Institute .....	1
Columbia .....	19	Loyola .....	1
Concordia .....	3	Luther .....	10
Connecticut Wesleyan .....	1	McGill .....	3
Cornell College .....	1	McMinville .....	1
Cornell University .....	13	Macalester .....	20
Creighton .....	5	Maine .....	1
Dakota Wesleyan .....	5	Manchester School of Technology .....	1
Dalhousie .....	1	Manitoba .....	9
Dartmouth .....	3	Maryland .....	2
Davidson .....	1	Massachusetts Agricultural .....	1
Denmark .....	2	Massachusetts Institute of Tech- nology .....	2
Denver .....	2	Mercer .....	1
Des Moines .....	1	Miami .....	1
Detroit Medical .....	2		

\* In cases where the rating of the college is low, the student's entry blanks show extra undergraduate work here or elsewhere or tested qualifications in their major work.

Michigan .....	23	Sidney, Australia .....	3
Michigan Agricultural .....	2	Simpson .....	2
Milton .....	1	Smith .....	4
Milwaukee-Downer .....	1	South Africa .....	1
Minnesota .....	631	South Carolina .....	1
Mississippi A. & M. ....	3	South Dakota .....	13
Missouri .....	8	South Dakota State .....	2
Missouri Wesleyan .....	2	Southern California .....	3
Monmouth .....	1	Southwestern .....	2
Montana .....	3	Texas .....	3
Montana State .....	1	Thiel .....	1
Morningside .....	1	Tokio, Japan .....	1
Nebraska Wesleyan .....	2	Toronto, Canada .....	8
New Hampshire .....	2	Trinity .....	4
North Carolina .....	5	Tulane .....	3
North Dakota .....	20	Tusculum .....	1
North Dakota Agricultural .....	3	Union College .....	3
North Dakota State Teachers .....	1	Ursinus .....	1
Northern Normal .....	2	U. S. Naval Academy .....	1
Northwestern .....	9	Utah .....	3
Notre Dame .....	1	Utah Agricultural .....	1
Oberlin .....	7	Vanderbilt .....	3
Oglethorpe .....	1	Vassar .....	1
Ohio .....	3	Vermont .....	1
Ohio State .....	4	Victoria .....	1
Ohio Wesleyan .....	3	Vienna .....	1
Oklahoma A. & M. ....	4	Virginia .....	4
Oregon .....	3	Virginia Polytechnic .....	1
Oregon Agricultural .....	3	Wabash .....	1
Pasadena College .....	1	Wartburg .....	2
Pennsylvania State .....	6	Washburn College .....	1
Petrograd, Russia .....	1	Washington .....	5
Philadelphia .....	1	Washington and Lee .....	1
Pittsburgh .....	7	Washington Missionary .....	1
Pomona .....	1	Washington State .....	2
Princeton .....	2	Wellesley .....	3
Purdue .....	8	Wells .....	1
Queen's College, Ireland .....	1	West Point .....	1
Radcliffe .....	3	West Virginia .....	2
Red Wing Seminary .....	1	Western .....	2
Reed .....	1	Willamette .....	1
Ripon .....	4	Winnipeg .....	1
Rostock, Germany .....	1	Wisconsin .....	39
Rutgers .....	1	Woman's Medical College (Pa.) .....	2
St. Benedict .....	2	Wooster .....	1
St. Catherine .....	14	Yankton .....	3
St. John's .....	2	Foreign colleges represented .....	17
St. Lawrence .....	1	Total number of colleges represented .....	206
St. Louis .....	4	Total registration from the University of Minnesota .....	631
St. Olaf .....	30	Total registration from other colleges .....	776
St. Teresa .....	7		
St. Thomas .....	4		
St. Stephens .....	1		
Saskatchewan, Canada .....	4	Total .....	1,407

## DOCTORS OF PHILOSOPHY

During the year 1924-25, the degree of doctor of philosophy was conferred upon 31 individuals, as shown by the following list. The corresponding number for the year 1923-24 was 26.

- John Herbert Beaumont, B.S. in Agriculture '17, West Virginia University. Major, horticulture; minor, botany. Thesis: *The Course of Pollen-Tube Growth in the Apple*. Major adviser, W. H. Alderman.
- Theodore Christian Blegen, B.A. '12, M.A. '15, Minnesota. Major, history; minor, political science. Thesis: *Norwegian Immigration before the Civil War*. Major adviser, Solon J. Buck.
- J. William Buchta, B.S. in E.E. '20, M.A. '21, Nebraska. Major, physics; minor, mathematics. Thesis: *A Low Voltage Electron-Beam Oscillograph*. Major adviser, John T. Tate.
- Jonas Jergen Christensen, B.S. '21, M.S. '22, Minnesota. Major, plant pathology; minor, plant physiology and plant breeding. Thesis: *Physiologic Specialization and Parasitism of Helminthosporium sativum P.K.B.* Major adviser, E. C. Stakman.
- Justin Sarsfield DeLury, B.A. '05, University of Toronto. Major, geology; minor, petrology. Thesis: *Geology, Topography and Resources of the Wapawekka and Deschambault Lake Area of Saskatchewan*. Major adviser, W. H. Emmons.
- Andrew Dingwall, Associate Royal Technical College '14, Glasgow, Scotland. Major, agricultural biochemistry; minor, bacteriology. Thesis: *Studies of the Proteins of Wheat Flours and Their Relation to Flour Strength*. Major adviser, C. H. Bailey.
- Edwin William Gaumnitz, B.S. '21, M.A. '22, Minnesota. Major, agricultural economics; minor, economics. Thesis: *Central Market Price Quoting, Especially in the Minneapolis-St. Paul Market*. Major adviser, H. Bruce Price.
- Cyril Harold Goulden, B.S.A. '21, M.S.A. '23, University of Saskatchewan. Major, plant breeding; minor, plant pathology and biochemistry. Thesis: *A Genetic and Cytological Study of Dwarfing in Wheat and Oats*. Major adviser, H. K. Hayes.
- Henry Edward Hartig, B.S. in engineering '18, Minnesota. Major, physics; minor, mathematics. Thesis: *The Apparent Transmission of Low Velocity Electrons thru Aluminum Foil*. Major adviser, John T. Tate.
- Charles Russell Hoffer, B.S.A. '18, Purdue, M.S. '21, Iowa State College. Major, sociology; minor, agricultural economics. Thesis: *Commodity Distribution in Rural Communities As a Form of Community Service*. Major adviser, F. S. Chapin.
- John Monroe Hughes, B.A. '16, Indiana, M.A. '22, Columbia. Major, educational administration; minor, educational psychology. Thesis: *A Study of Certain Factors of Achievement in High School Physics*. Major adviser, L. V. Koos.
- Arthur Hubert Kohlhase, B.S. '19, M.S. '21, Minnesota. Major, organic chemistry; minor, physical chemistry. Thesis: *Studies in Aromatic Sulphur Compounds*. Major adviser, W. H. Hunter.

- Moses Naphtali Levine, B.S. '15, M.S. '16, Minnesota. Major, plant pathology; minor, plant breeding. Thesis: *Statistical Studies on the Variation of Biologic Forms of Puccinia graminis Triticum and the Effect of Ecological Factors on the Susceptibility of Wheat Varieties*. Major adviser, E. C. Stakman.
- George Andrew Lundberg, B.A. '20, North Dakota. Major, sociology; minor, economics. Thesis: *Poor Relief Legislation in Minnesota*. Major adviser, F. S. Chapin.
- Clarence Eugene Mickel, B.S. '17, Nebraska, M.S. '23, Minnesota. Major, entomology; minor, animal biology. Thesis: *Biological and Taxonomic Investigations on the Mutillid Wasps (Hymenoptera)*. Major adviser, O. W. Oestlund.
- Minerva Morse, B.A. '15, M.S. '20, Minnesota. Major, chemistry (organic); minor, physics. Thesis: *The Oxidation of Trichlorophenol*. Major adviser, W. H. Hunter.
- Arnold Erwin Osterberg, B.S. '16, Washington, M.S. in physiologic chemistry '21, Minnesota. Major, physiologic chemistry; minor, physiology. Thesis: *Chemical Nature and Physiological Significance of Thyroxin and Related Compounds*. Major adviser, E. C. Kendall.
- Nellie Maria Payne, B.S. '20, M.S. '21, Kansas State. Major, entomology; minor, biochemistry. Thesis: *Freezing and Survival of Insects at Low Temperature*. Major adviser, Royal N. Chapman.
- Harold Augustus Phelps, B.A. '20, Brown, M.A. '22, George Washington. Major, sociology; minor, economics. Thesis: *Social and Economic Factors Influencing the Organizability of Labor: A Comparative Study of Unionism in Rhode Island and Minnesota*. Major adviser, F. S. Chapin.
- Reuben Marion Pinckney, B.S. '06, Nebraska Wesleyan, M.A. '08, University of Nebraska. Major, soils; minor, physical chemistry. Thesis: *The Freezing Points of Soils at the Moisture Equivalent*. Major adviser, F. J. Alway.
- J. Orin Powers. B.A. '17, M.A. '18, Illinois. Major, educational administration; minor, educational psychology. Thesis: *A Comparative Study of Instructional Outcomes in Academic Subjects in Non-Junior and Junior High Schools of Minneapolis*. Major adviser, L. V. Koos.
- William David Reeve, B.S. '09, University of Chicago. Major, education; minor, mathematics. Thesis: *A Diagnostic Study of the Teaching Problems in High School Mathematics*. Major adviser, M. E. Haggerty.
- Alice Rupp, B.A. '20, M.A. '22, Wellesley. Major, physiology; minor, anatomy. Thesis: *The Metabolism of Muscle Tonus*. Major adviser, F. H. Scott.
- Landon Arndale Sarver, B.A. '15, Randolph Macon, M.A. '19, Lafayette College. Major, chemistry (analytical), minor, chemistry (physical). Thesis: *The Solubility Relations of the Rare Earth Oxalates*. Major adviser, Paul Brinton.
- Reginald Carter Sherwood, B.S. '14, M.S. '16, South Dakota State College. Major, biochemistry; minor, chemistry (organic). Thesis: *The Con-*



- trol of Diastatic Activity in Wheat Flour.* Major adviser, C. H. Bailey.
- James Sheldon Shoemaker, B.S.A. '21, M.S. '22, Toronto. Major, horticulture; minor, plant physiology. Thesis: *Pollen Development in the Apple with Special Reference to Chromosome Behavior.* Major adviser, W. H. Alderman.
- Helen Sorokin, University of Petrograd, '17. Major, botany; minor, plant pathology. Thesis: *Cytological Investigations of the Gynodimorphic and Normal Ranunculus Acris L.* Major adviser, C. O. Rosendahl.
- Maurice Visscher, B.A. '22, Hope, M.S. '24, Minnesota. Major, physiology; minor, physical chemistry. Thesis: *The Transportation and Storage of Carbohydrate in the Animal Body.* Major adviser, F. H. Scott.
- Warren C. Waite, B.S. '19, M.A. '21, Minnesota. Major, agricultural economics; minor, economics. Thesis: *The Price Making Mechanism of the Central Markets.* Major adviser, J. D. Black.
- Ludwig Joseph Weber, B.S. '20, Chem. E. '21, Minnesota. Major, inorganic chemistry; minor, physical and technological chemistry. Thesis: *The Detection of Osmium, Ruthenium, Rhodium and Iridium.* Major adviser, M. C. Sneed.

#### DOCTOR OF PHILOSOPHY IN OBSTETRICS AND GYNECOLOGY

- J. Warren Bell, B.A. '14, M.D. '16, Minnesota. Major, obstetrics; minor, pathology. Thesis: *Vital Capacity of Toxemia of Pregnancy and in Normal Pregnancy.* Major adviser, Dr. F. L. Adair.

#### DOCTOR OF PHILOSOPHY IN PEDIATRICS

- Laurence Francis Richdorf, B.S. '17, Wisconsin, B.M. '20, M.D. '20, Minnesota. Major, pediatrics; minor, anatomy. Thesis: *A Quantitative Study of the Growth of the Normal Infant in the First Year.* Major adviser, Rood Taylor.

#### DOCTOR OF LAWS (Honorary Degree)

William Watts Folwell.

#### PUBLICATIONS

Since the last report the following publications from the Graduate School have appeared:

##### *Studies in the Social Sciences*

Faith Thompson, *The First Century of Magna Carta, Why It Persisted As a Document.*

Mason W. Tyler, *European Powers and the Near East, 1875-1908.*

## THE PRESIDENT'S REPORT

*Education Series*

Fletcher H. Swift, Mrs. F. K. del Plaine, and Oliver P. Troxel, *Studies in Public School Finance Series No. 3: The Middle West—Illinois, Minnesota, and South Dakota, with a Supplement on Alaska Public School Finance.*

Fletcher H. Swift and J. Harold Goldthorpe, *Studies in Public School Finance Series No. 4: The South—Arkansas, Oklahoma, Alabama, Tennessee.*

*Bibliographical Series*

Frank J. Walter, *Union Check List of Biological Periodicals.*

The following publications are in press:

*Studies in Language and Literature*

Martin B. Ruud, *Thomas Chaucer.*

*Bibliographical Series*

Clarence M. Jackson, *Report of Research in Progress at the University of Minnesota during the Year 1924-25.*

*Studies in the Biological Sciences*

Leroy A. Calkins and Richard E. Scammon, *The Development and Growth of the External Dimensions of the Human Body in the Fetal Period.*

*Studies in the Social Sciences*

Mildred Hartsough, *The Development of the Twin Cities (Minneapolis and St. Paul) As a Metropolitan Market.*

## APPROPRIATIONS FOR RESEARCH

An allotment for \$1,000 from the Graduate School Research Fund was made for payment of the expenses for visiting lecturers. This included a series by the foremost American specialists on various phases of nutrition. This series was secured jointly with the Mayo Foundation. (See list on separate report.) Other grants made from the Graduate School Research Fund, with the approval of the Executive Committee, were as follows:

## RESEARCH GRANTS, 1924-25

Adair, F. L., supplies for research in pathology of the newborn.....	\$600.00
Bernard, L. L., assistant for research in sociology.....	100.00
Buck, S. J., assistant for research in history.....	200.00
Diehl, H. S., clerical assistance for research in blood pressure.....	100.00
Educational Research Committee, supplementary support for research program in education .....	1000.00
Emmons, W. H., assistant for research in geology.....	400.00
Erikson, H. A., assistant and equipment for research in physics.....	500.00
Folwell, W. W., assistant for research on the history of Minnesota.....	500.00
Freeman, E. M., for purchase of a collection of Rabenhorst's <i>Fungi Europaei Exsiccati</i> .....	562.50
Green, Robert G., equipment and supplies for research in bacteriology.....	200.00
Grout, F. F., assistant for research in chemical geology.....	300.00
Hansen, A. H., assistant for research in economics.....	150.00

Harder, O. E., assistant for research in metallography.....	200.00
Harris, J. Arthur, assistant for research in botany.....	500.00
Henrici, A. T., assistant for research in bacteriology.....	600.00
Lashley, Karl, equipment and supplies for research in experimental psychology	535.00
McClendon, J. F., assistant and equipment for research in physiology.....	600.00
Marine Biological Laboratory, Woods Hole, Massachusetts, support of table for research workers from the University of Minnesota.....	50.00
Minnich, D. E., supplies for research in zoology.....	50.00
Myers, J. A., assistant for research in public health.....	600.00
Parcel, John I., assistant for research in bridge engineering.....	400.00
Rasmussen, A. T., assistant for research on the structure of the hypophysis...	200.00
Scammon, R. E., assistant for research on the anatomy of childhood.....	600.00
Schlutz, F. W., equipment for research in metabolism of children.....	500.00
Scott, Fred H., equipment and supplies for research in physiology.....	300.00
Stakman, E. C., research assistant in phytopathology.....	350.00
Stauffer, C. R., assistant for research in geology.....	400.00
Swift, F. H., clerical assistance for research in education.....	350.00
Van Wagenen, M. J., clerical assistance for research in educational psychology	250.00
Woodrow, Herbert, supplies for research in psychology.....	100.00

A separate report for the Mayo Foundation is appended hereto.

Respectfully submitted,

CLARENCE M. JACKSON, *Acting Dean*

#### THE MAYO FOUNDATION

Herewith is presented a brief summary of the finances and work in medical education and research of the Mayo Foundation from July 1, 1924, to June 30, 1925:

*Financial.*—On July 1, 1924, the balance in the foundation fund was \$18,705.76. During the year there has been added \$142,464.53, gross income from the fund. The total expenses for the year, including investment costs, were \$393,291.56, of which \$138,959.38 was paid from the foundation fund and \$254,332.18 from the Mayo Clinic. The balance in the foundation fund on June 30, 1925, was \$22,210.91.

*Faculty.*—The number of members of the faculty in the Mayo Foundation is shown in the following table:

	Professors	Associate Professors	Assistant Professors	Instructors
Number on duty July 1, 1924.....	21	16	16	19
Promotions during the year.....	..	..	2	2
New appointments.....	..	..	..	11
Resignations.....	1	..	1	1
Number on duty June 30, 1925.....	20	16	17	27

*Fellows and other graduate students.*—An analysis of the fields in which fellows in the Mayo Foundation are majoring is shown in the following table:

## THE PRESIDENT'S REPORT

Fields	Number Here July 1, 1924	Left During Year	Came During Year	Total Here June 30, 1925
Medicine .....	42	5	10	47
Neurology .....	5	..	..	5
Pediatrics .....	5	..	2	7
Dermatology .....	7	3	1	5
Surgery .....	72	14	19	77
Urology .....	5	2	1	4
Orthopedics .....	3	1	..	2
Oto-Laryngology .....	1	3	2	10
Ophthalmology .....	4	2	2	4
Obstetrics .....	1	..	..	1
Dental .....	5	..	1	6
Roentgenology .....	1	..	1	2
Pathology .....	7	..	..	7
Chemistry .....	5	..	..	5
Total .....	173	30	39	182

*Fellows from other organizations.*—In addition to the number of fellows indicated in the preceding table, sixteen students from other organizations have been registered in the foundation. The institutions from which these students have come are indicated as follows:

University of Minnesota .....	4
Rockefeller Foundation .....	4
C. R. B. Foundation .....	1
United States Navy .....	2
United States Army .....	1
Spanish Government .....	1
Japanese Navy .....	1
University of Pennsylvania .....	1
Personal volunteer .....	1

*Graduates.*—Fifteen Master's degrees and one Doctor's degree have been conferred during the year. The fields in which the degrees were obtained are as follows:

Fields	Master's	Doctor's
Medicine .....	3	..
Surgery .....	9	..
Urology .....	1	..
Pathology .....	1	..
Chemistry .....	1	1

*Lectures.*—During the year a series of lectures on nutrition was provided. In addition a number of lectures by eminent men from outside the faculty was given. The complete list of lectures by visiting speakers follows:

## LECTURES DURING 1924-25

- October 9. Professor E. P. Joslin, Harvard University, Boston. A Broader Study of Diabetes.
- October 31. Professor A. V. Hill, University College, London. The Relation between Muscular Activity and Carbohydrate Metabolism.
- November 10. Professor William Einthoven, University of Leyden, Netherlands. The Relation of the Mechanical and Electrical Phenomena of Muscular Contraction with Special Reference to Cardiac Muscle.
- November 11. Professor William Einthoven, University of Leyden, Netherlands. The Relation of the Mechanical and Electrical Phenomena of Muscular Contraction with Special Reference to Cardiac Muscle.

- November 12. Dr. N. D. Royle, Sydney, Australia. Ramisectomy for Spastic Paralysis.
- November 13. Dr. N. D. Royle, Sydney, Australia. Ramisectomy for Spastic Paralysis.
- November 18. Professor Francis G. Benedict, Carnegie Institution, Boston. The Measure and Significance of Basal Metabolism.
- December 16. Professor Eugene F. DuBois, Russell Sage Foundation, New York. The Proportions in Which Protein, Fat and Carbohydrate are Metabolized in Disease.
- January 13. Professor E. V. McCollum, Johns Hopkins University, Baltimore. Our Present Knowledge of Vitamines.
- January 27. Colonel George Fabyan, Riverbank, Geneva, Illinois. Cryptography.
- February 20. Professor Graham Lusk, Cornell University Medical College, New York. The Problems of Metabolism.
- March 9. Dr. B. B. Vincent-Lyon, Philadelphia, Pennsylvania. Present-Day Management of Gall Tract Disease with Special Consideration of the Diagnostic and Therapeutic Value of Nonsurgical Drainage of the Gall Tract As an Aid to the Surgeon.
- March 17. Mr. A. E. Wiggam, New York. What Is Civilization Doing to Mankind?
- April 3. Professor H. M. Evans, University of California, Berkeley, California. The Relation of Nutrition to Reproduction.
- April 9. Dr. G. Allen Robinson, New York. Radium in Dermatology.
- May 7. Dr. H. Longstreet Taylor (Dr. E. K. Geer), Minneapolis. Pathology of Pulmonary Tuberculosis.
- May 21. Professor C. O. Rosendahl, University of Minnesota. The Geographic Distribution of Hay Fever Plants in Minnesota.
- June 26. Professor Allen K. Krause, Johns Hopkins University, Baltimore. Tuberculous Infection and Reinfection: an Experimental Study.

*Publications and studies in progress.*—An analysis of the publications and research studies by members of the faculty, research assistants, and fellows in the Mayo Foundation is given, the detailed lists of publications of members of the faculty appear elsewhere in the *President's Report*.

ANALYSIS OF THE PUBLICATIONS AND INVESTIGATIVE STUDIES BY MEMBERS OF THE FACULTY OF THE MAYO FOUNDATION DURING THE YEAR FROM JULY, 1924, TO JULY, 1925

(See list submitted June, 1924.)

	Number of Contributors	Published	Unpublished
Surgery* .....	13	116	3
Orthopedic Surgery .....	3	16	4
Urology .....	4	22	6
Oto-Laryngology .....	3	24	..
Ophthalmology .....	4	8	..
Dental Surgery .....	1	7	..
Obstetrics .....	1	3	..
Medicine .....	24	111	16
Dermatology .....	3	18	1
Neurology .....	4	7	1
Pediatrics .....	2	15	7
Radiology .....	6	40	1
Pathology .....	8	37	13
Bacteriology .....	3	17	..
Chemistry .....	2	7	1
	81	177	53

\* Dr. W. J. Mayo's contributions are also included in this group tho, since he is a member of the Board of Regents, he is not a member of the faculty.

ANALYSIS OF THE PUBLICATIONS AND INVESTIGATIVE STUDIES BY  
RESEARCH ASSISTANTS IN THE MAYO FOUNDATION DURING  
THE YEAR FROM JULY, 1924, TO JULY, 1925

	Number of Contributors	Published	Unpublished
Surgery .....	1	5	..
Orthopedic Surgery .....	1	5	..
Medicine .....	3	8	..
Pathology .....	2	2	1
Bacteriology .....	3	8	4
Physics .....	2	11	..
	12	39	5

ANALYSIS OF THE PUBLICATIONS AND INVESTIGATIVE STUDIES BY  
FELLOWS AND SPECIAL STUDENTS IN THE MAYO FOUNDATION  
DURING THE UNIVERSITY YEAR 1924-25

	Number of Contributors	Published	Unpublished
Surgery .....	29	41	12
Orthopedic Surgery .....	2	6	1
Urology .....	4	13	..
Oto-Laryngology .....	3	4	2
Ophthalmology .....	2	6	1
Dental Surgery .....	3	1	3
Obstetrics .....	1	6	..
Medicine .....	17	37	23
Dermatology .....	4	9	..
Neurology .....	3	3	1
Pediatrics .....	5	15	12
Radiology .....	2	8	..
Pathology .....	2	1	1
Bacteriology .....	1	1	..
Chemistry .....	1	2	..
	79	153	56

The following report concerns the work and progress of the Mayo Foundation since its establishment in 1915.

*General and financial.*—The Mayo Foundation for Medical Education and Research became a definite part of the University of Minnesota on June 9, 1915.

During the first year there were twenty-five members of the faculty and seventy-two graduate students. The total budget for the year was \$95,932.00, all of which money was paid by the Mayo Clinic. The budgets for the next seven years were met in the same way. Since July 1, 1922, the income from the Foundation endowment fund has been used to meet a portion of the annual budget. For the year just closed there were 72 members of the faculty and 210 graduate students, while the total budget was \$289,249.62, of which \$79,913.30 was paid by the income from the Mayo Foundation and the remainder, \$209,336.32, by the Mayo Clinic. During the total period of nine years there have been 570 different graduate students, and the total expenses have been \$1,853,884.45, of which \$157,933.30 has been paid from the income of the Foundation and the remainder, \$1,695,951.15, from the Mayo Clinic.

STATEMENT OF THE EXPENSES OF THE MAYO FOUNDATION FOR THE YEARS ENDING ON JULY 1 EACH YEAR

Year	Paid by Foundation	Paid by Clinic	Total
1916	.....	\$ 95,932.00	\$ 95,932.00
1917	.....	131,642.09	131,642.09
1918	.....	126,064.76	126,064.76
1919	.....	141,452.16	141,452.16
1920	.....	232,671.01	232,671.01
1921	.....	277,742.21	277,742.21
1922	.....	291,050.20	291,050.20
1923	\$ 78,020.00	190,060.40	268,080.40
1924	79,913.30	209,336.32	289,249.62
	\$157,993.30	\$1,695,951.15	\$1,853,884.45

*Medical education.*—Of the 570 graduate students registered in the Foundation since June 9, 1915, 55 have done, or are doing, their major work in pre-clinical fields and as such since July 1, 1922, have been paid from the income of the Mayo Foundation. There are five graduate students in this group at present in the Foundation. Four hundred thirty-two graduate students have done, or are now doing, their major work in clinical fields, and as such have received their stipends from the Mayo Clinic. There are at present 158 of this group in the Foundation. Sixty-four graduate students working in either clinical or non-clinical fields have received their support from institutions other than the Mayo Foundation, or the Mayo Clinic, such as the Rockefeller Foundation, the C.R.B. Educational Foundation, Inc. (established by Commission for Relief in Belgium), the U.S. Navy, the U.S. Army, etc. Students in this latter group have been accepted from the institutions named out of courtesy. These are at present 11 of these in the Foundation. In addition to the above groups there has been a total of 39 members of the staff of the Mayo Clinic who at no time have been on fellowship stipends but have been registered as graduate students. There are at present 8 of these. Of the total of 570 graduate students, the periods of residence have been as follows:

32 five years and over	} These groups include the graduate students who are still in the Foundation
54 four years	
145 three years	
125 two years	
57 one year	
157 less than one year	

Of the total number of 384 graduate students who have left the Foundation, 85 have been granted the degree of master of science and 5 the degree of doctor of philosophy. Seventy-one of these are in teaching positions. It should be noted that some of the graduate students have not been candidates for advanced degrees, many have had to leave before they had completed their required residence and a fairly large percentage failed of recommendation.

## ANALYSIS OF DEGREES CONFERRED ON GRADUATE STUDENTS IN THE MAYO FOUNDATION

Major Field	Master of Science	Doctor of Philosophy
In Medicine .....	9	1
In Dermatology .....	2	..
In Neurology .....	2	..
In Pediatrics .....	1	..
In Surgery .....	42	2
In Orthopedic Surgery .....	3	..
In Urology .....	9	..
In Oto-Laryngology .....	3	..
In Ophthalmology .....	4	..
In Pathology .....	6	1
In Rcentgenology .....	1	..
In Radiology .....	1	..
In Bacteriology .....	1	1
In Chemistry .....	1	..
	—	—
	85	5

The thesis subjects of the candidates for advanced degrees have ranged pretty thoroly through the entire field of medicine. Most of them have been published in scientific journals and are republished either as a whole, in abridgment, or in abstract in the annual volume issued from the Foundation and Clinic. Aside from their inestimable value from the standpoint of training the student in the spirit and method of research, these studies are of great permanent value in the additions they have made to our knowledge of medicine.

*Research.*—Besides the research work done by graduate students, the faculty personnel of three departments of the Foundation have been engaged entirely in research work. These are Experimental Surgery and Pathology under Professor F. C. Mann, Experimental Bacteriology under Professor E. C. Rosenow, and Experimental Biochemistry under Professor E. C. Kendall. The expenses of these departments, which are non-clinical, are now met almost entirely by the funds of the Mayo Foundation.

The relatively high expenses of these laboratory departments, it is believed, is more than offset by the scientific results obtained in them. In Dr. Mann's laboratory a number of important physiological and pathological problems have been studied and solved. At present he is engaged in a most far-reaching and fundamental study of the physiology of the liver, in which, we believe it is no exaggeration to say he has already accomplished more than has been previously accomplished in the last seventy-five years. Dr. Rosenow's work on several serious infectious diseases, particularly in relation to focal infections and the selective growth of bacteria, is very far-reaching and well in advance of the time. Dr. Kendall and his co-workers have confined themselves to one field, namely, the biochemistry of the thyroid. In this, they have successfully solved several problems which had been under unsuccessful investigation by a host of other observers for half a century. The University has the right to be proud of the achievements of these three departments and of the honors



which have been accorded them by scientific men of this and other countries.

Besides the research work which has been done in the three departments mentioned above, a very large volume of high grade scientific research has been constantly in progress and much has been accomplished in other departments and by other members of the faculty of the Foundation who have been using the facilities and material furnished the University free of expense by the Mayo Clinic. The list of studies is too long to enumerate, but it is sufficient to say that each year when reprinted in condensed form it has made up a very respectable portion of a volume of approximately 1,200 pages. In the last of these volumes there were 221 articles.

*General plan of work.*—The general plan of graduate education in the Mayo Foundation may be summarized as follows:

1. Selection from a large number of applicants of a small number of exceptionally well-qualified graduates in medicine who have already had at least one year's hospital residence.

2. Placing these applicants into active work for a probationary period of six months.

3. Recommending the appointment of desirable probationers at the end of six months by the Board of Regents as fellows for a period of one year, six months of which has already been successfully served.

4. The annual reappointment for a period of a year and for a grand total of not more than five years, of desirable fellows.

5. Placing all graduate students under individual instruction in laboratory or clinical departments of the Mayo Clinic. In no department are there more than nine graduate students engaged at one time. These are under the charge of at least three members of the faculty. In most departments there are only three graduate students. Each graduate student during his three to five years of residence, unless engaged wholly in research, is given opportunity under careful supervision to do clinical work in sufficient amount to make him skillful and to develop his clinical judgment. He makes careful study of from 1,000 to 1,200 patients each year he is on clinical work. At the same time he is given opportunity and is constantly stimulated to make clinical and laboratory investigations in the field of his major subject. Indeed, he must do this before he is an eligible candidate for a graduate degree.

6. No classes in the ordinary sense of the term are held, but group seminars and conferences more in keeping with the advanced preparation of mature students are a salient feature in all departments. Throughout the scholastic year regularly scheduled lectures by members of the faculty are given covering the essential points in the various medical specialties. In addition to this a large number of lectures by eminent men from outside the faculty are given. Last year a very noteworthy course on heredity was provided. During the coming year a similar course on nutrition will be provided covering the very latest progress in these fields by the men who have been originally responsible for the investigations. These two

courses of lectures are shared by the Medical School of the University of Minnesota, the University of Wisconsin, the University of Nebraska, the University of Iowa, and Washington University in St. Louis.

The system of graduate training may perhaps be summed up by saying that it is an attempt to preserve the very best features of the old apprentice system and to add thereto the best features of modern graduate education. This consists essentially in providing every facility in material, laboratories, and time for selected graduate students to work under the immediate supervision of a large faculty of well-trained specialists. This faculty can thus intelligently certify to the faculty of the Graduate School the competency of each candidate to begin the practice of the special field of his major study in a scientific manner without supervision. This, it is believed, is placing the certification of medical and surgical specialists on a sound basis and one which the University of Minnesota has originated.

Without boasting it may be stated that during the past two years numerous commissions and individual investigators who have studied the Foundation have said in effect that the University of Minnesota has in the Mayo Foundation and the Graduate Department of its Medical School the most effective working graduate school of medicine in the world and one of the best, if not the best, organized, manned, and most productive departments of medical research.

Respectfully submitted,

LOUIS B. WILSON, *Director*

## THE SCHOOL OF BUSINESS

*To the President of the University:*

SIR: I beg to submit the following report on the School of Business for the academic year 1924-25.

*Faculty.*—But one minor change was made in the teaching personnel for the year just closed and, to date, no changes in the professorial ranks for 1925-26 have occurred. This is a gratifying relief from the frequent shifting which characterized faculties in economics and commerce during the period immediately following the World War and has done much to improve the character of the work offered. Dr. Ernest A. Heilman was promoted to the rank of associate professor and Dr. Warren C. Waite and Mr. Harry J. Ostlund to assistant professorships. Professor Bruce D. Mudgett has been granted sabbatical leave for 1925-26 for the purpose of foreign study.

*Student problems.*—The outstanding developments of the year have been in the direction of higher scholastic and ethical standards. The student body by a large majority voted to impose upon itself a much more rigid type of honor system for the conduct of examinations. Prizes and other marks of distinction have been provided by the two commerce fraternities and a pre-business freshman advisory system has been worked out by the members of the incoming senior class for the fall registration. A commerce magazine, the *Gopher Business News*, has been established and promises to do much to stimulate the interest of students and alumni in the current problems of business as well as keep them in touch with the activities of the school.

*Building changes.*—The completion of the library and administration buildings have made it possible to turn over the entire Mechanic Arts Building to the School of Business. It is now possible to conduct all but the very largest classes in our own building and to provide a study room and lockers for student use.

*Public service.*—The school will be remiss in its duty to the commonwealth which sustains it if it does not take a lively and helpful interest in the economic and business problems of this region. The research and service activities of our faculty and graduate students need to be organized and directed by a business research bureau. The experience of other large universities with organized business research shows that both with respect to service to the state and improvement of teaching in the Business School the bureaus have more than justified their creation.

Respectfully submitted,

GEORGE W. DOWRIE, *Dean*

## DEAN OF WOMEN

*To the President of the University:*

SIR: The dean of women herewith submits the following report for the year 1924-25.

### REGISTRATION OF WOMEN

Academic .....	1803
Agriculture and Home Economics.....	374
Business .....	38
Chemistry .....	7
Dental Nurses .....	32
Dentistry .....	4
Education .....	1394
Engineering and Architecture.....	19
Graduate .....	254
Law .....	13
Medicine .....	42
Nurses .....	283
Pharmacy .....	38
Technicians Course .....	4
War Specials .....	1
Total (excluding duplicates).....	4004
During Summer Session 1923.....	1742
Total for year (less duplicates).....	5244

The distribution as to residence (figures based on the census cards supplied by the registrar's office, and by private information obtained by this office) during the regular session of 1924-25, is as follows:

At home, or with relatives and friends.....	2215
In approved houses .....	330
In dormitories .....	284
In co-operative cottages .....	41
In home management houses.....	16
(Group changes each quarter)	
Nurses, in homes and hospitals.....	285
In sorority houses .....	165
Working for room and board.....	45
Total .....	3381

(The discrepancy between this figure and 4,004 is represented by the large group of teachers in city schools, also registered in the College of Education, whose maturity makes supervision of residence unnecessary.)

Wholly self-supporting .....	649
Partially self-supporting .....	654
Wholly dependent .....	1588
No reply .....	559

*Delinquents.*—The dean of women has worked in co-operation with Dean Nicholson, Dean Shumway, Dean Freeman, and Dean Haggerty. She has served on the Students' Work Committee of the College of Science, Literature, and the Arts, the College of Education, and the College of Agriculture, Forestry, and Home Economics on all cases of women students on probation because of poor scholastic work. This seems to be one of the really important tasks of this office. She has also dealt with all individual cases of delinquency of women students from other causes coming to the attention of university officials. Considering the great number of students enrolled and the situation of the University in the midst of two large cities, the number of such cases has been encouragingly small.

*Domestic employment.*—All domestic work for students, that is, the care of children or general housework, is handled by this office. Permanent work has been found for about 35 students, and occasional work for about 40. Only girls having had experience in domestic work, and who are strong physically, should attempt to work for room and board. Otherwise, such work is done at too great expense to health and scholarship. It is hardly advisable for students working for room and board to carry a full academic program.

*Absences.*—Excuses for absences, excepting for cases of sickness, have been written by the dean of women. With the opening of the winter quarter, a policy of greater strictness in granting excuses has been in force with a gratifying reduction in the number of absences. The figures are as follows: fall quarter, 407; winter quarter, 209; and spring quarter, 147, making a total of 753.

## HOUSING

*Sanford Hall.*—With the opening of the fall quarter, a new policy was instituted at Sanford Hall. Mrs. Ora C. Gayle, returning from her leave of absence, took over the entire control of the financial side and the physical plant. Miss Lila Hainer was appointed social director with full charge of both wings. This plan did away with the teacher chaperonage which had proved inadequate with the increased number of students in the Hall. One of the outstanding results of the new plan has been the increased unity of feeling in the dormitory and the gradual dying out of the intense rivalry between the East and West halls. Much more has been done also for the social life of the women students than was possible when the chaperones devoted so much of their time to their teaching, which was, of course, their major interest.

*Co-operative cottages.*—Northrop Cottage, reserved for medical students, has housed nine girls the past year, and three others have taken their meals there. Miss Gertrude Ross, of the Art Education Department, has acted as chaperone. Every place in the cottage has already been reserved for next year. Loring Cottage, where Miss Jean Alexander, of the Department of Education, has been the chaperone for a number of years, has had its usual quota of sixteen, and is also filled for next year.

There were only two Winchell Houses this year, the main house chaperoned by Mrs. Mary E. Staples, 209 State Street, and the Annex at 113 State Street, chaperoned by Miss Dora Rice until May 1, and to the end of the year by Miss Mae Shannon. Eight girls were accommodated in each house.

In all the cottages, the rental is the same. Each student pays \$22.50 a quarter to the University. This means a heated house, with plenty of hot water. The other expenses never run over \$20 a month, and the living conditions, including table board, are first class. All of the work, except the cooking and the weekly cleaning, is done by the students, and requires an average time of twenty minutes a day.

We are losing the old house at 125 State Street this summer, and already have a waiting list of girls, working their way, who want to live in a co-operative cottage. We should have several more houses to devote to this worthy work. The four houses which we shall have for next year are all good houses and well worth preserving. When they have to be moved from their present sites, which we hope will not be for several years, it would seem an excellent plan to place them where they can be used for this same purpose permanently. Surely there must be a piece of ground somewhere on the campus which could be turned over for co-operative cottages.

In spite of the fact that all the girls who live in the cottages are mainly self-supporting, their scholarship rank is higher than that of any other single group on the campus. They maintain a fine type of social life, and the co-operative house affords them an opportunity for congenial associations which would be practically impossible for such busy women under other conditions. We could easily fill double the number of houses we are maintaining at present, if we had the facilities. No groups on the campus are rendering the University finer service than these young women in the co-operative cottages.

*Home management houses.*—Since the new home management houses are used only as a laboratory for the course in home management, the report belongs properly to the Home Economics Department.

*Home economics dormitory.*—The Division of Home Economics first housed its women students in the farm dormitory in the fall of 1922-23. Thirty-six women were cared for on the ground floor of the old dormitory. In the fall of 1923-24, the entire dormitory was available, and accommodated fifty women students. These students take their meals at the farm cafeteria, so the dormitory furnishes housing only. Miss Laura Matson is the chaperone. We are so well satisfied with the experiment that we hope to continue it, and gradually to improve the living conditions and furnishings there. The anomalous condition of this housing plan lies in the fact that the building belongs to, and is controlled by, the Farm School, tho the students in it are university women living under university rules. During the time that the Farm School students are in the adjoining dormitory the proximity of the two groups living under such very different regulations creates difficulties for both,

*Rooming and boarding houses.*—All houses where students live are inspected and graded according to desirability by the director of the Housing Bureau, Mrs. Mary E. Staples. We are constantly raising the standard of our rooming and boarding houses. Only houses that can be graded A and B are listed in our approved directory. The monthly meetings of the Householders Organization, composed of the women in charge of rooming and boarding houses, have continued throughout the year. Attendance at these meetings is compulsory for all women wishing to keep their names on the approved list.

#### SUMMER SCHOOL

No printed lists of rooming houses were sent out. Arrangements for rooms were again made through the Housing Bureau. This has proved to be very satisfactory. Shevlin Hall was open for the social activities of women. All the co-operative cottages were open for the first Summer Session, Northrop and Winchell Annex for the second session. Sanford Hall was open for both sessions.

#### WOMEN'S ORGANIZATIONS

*Women's Self-Government Association.*—The Women's Self-Government Association carried through a most successful program for all the women of the University. The work with the freshmen was reorganized under the name of the Senior Adviser Committee, of which Miss June Cryslar was the chairman. She organized a board of fifteen picked upper class women under each of whom were ten other upper class women. Each senior adviser was given the names of five entering students whom she assisted in registering, and in adjustment to university life. In many cases, the relationship lasted throughout the year. The Women's Self-Government Association also attempted to further the emphasis on scholarship by ruling that all women holding any office must have a clear scholastic record and a C average for the preceding quarter, and, furthermore, that the C average must be maintained during tenure of office. This is a distinct step in advance over the attitude of preceding years. They also worked out a detailed point system in an effort to prevent the overloading of some students' programs, and to distribute the work and honors more evenly in the student body. This year they have given eight scholarships of \$100 each from their funds, awarding them on the basis of scholarship, character, and need. For next year, they have voted to increase the number to twelve. One department of their work, that of the House Council, undertook the revision of the rules governing women's houses, and this revision was adopted by the women students as a whole at the spring election. It reads as follows:

2. Social engagements lasting later than 8:30 p.m., including entertainment of callers, shall be limited for Freshmen students to two evenings a week until 1:00 a.m., and for all other students, except seniors, to three evenings a week; two until 1:00 a.m., and one until 11:30 p.m. Permission may be obtained from the house Chaperone for two additional evenings a month. Seniors shall be allowed more than three evenings a week, provided they obtain permission from the house Chaperone.

4. No student shall entertain callers after 11:00 p.m., with the exception of Saturday evening, when callers may remain until 11:45. Upon returning from social engagements students shall dismiss their escorts promptly.

The object of the changes is to safeguard the study time of the younger students who are the ones, experience shows, most apt to abuse the liberty incident on their being away from home. The Women's Self-Government Association Board has been working very earnestly to co-operate with the president and the administration in emphasizing the need for higher scholarship.

The Vocational Committee in connection with Miss Rosenstiel decided on a series of six occupational round tables to be scattered through the year, instead of a single concentrated time with one out-of-town speaker. They were as follows:

October 31	Psychiatric Social Work MISS MEELOR, Child Guidance Clinic
November 21	Advertising MISS BABCOCK, E. E. Atkinson & Co.
January 23	Chemistry MISS JESSIE CAPLIN
February 28	Library Work MISS GRATIA COUNTRYMAN, Minneapolis Public Library
April 24	Department Store Work MISS BERTHA PEIK, The Dayton Co.
May 28	Journalism MRS. W. P. KIRKWOOD

In addition Miss Rosenstiel maintained office hours every other week and met individual students for conference on their vocational problems.

The Bookstore served approximately 3,500 students with a volume of business about the same as the year before, around \$9,000.

The rest rooms on both campuses, with the exception of the Shevlin Hall rest rooms, have been furnished, supervised, and maintained by the Women's Self-Government Association, and magazines and sewing supplies have been provided in Shevlin Hall and in the Fireplace Room on the farm campus.

The Social Committee of the Women's Self-Government Association has been very active in promoting the better acquaintance of the women students through social hours, sunlights, a Thanksgiving supper for out-of-town girls in which they were assisted by the student's section of the Faculty Women's Club, a Christmas party held on both campuses, a series of small senior adviser parties, and the promotion of the Hestian Club, which is an organization for out-of-town women.

The class in social dancing met every week, and was extremely successful.

*Women's Athletic Association.*—The Women's Athletic Association has been active throughout the year. In the fall they sponsored field hockey, volley-ball, horseback riding, and hiking. The winter tournaments in basket-ball, swimming, and ice hockey, and the tests in dancing, apparatus work, and individual gymnastics were followed in the spring quarter by baseball, tennis, archery, horseback riding, and track.



*Young Women's Christian Association.*—The Young Women's Christian Association has attempted to emphasize that which makes it unique as an organization on the campus, and which is expressed in the national objective, "We unite in the determination to live Jesus' law of love in every relationship of life, and so to know God." The activities of the association have been the means of interpreting this objective in campus life. Discussion groups accentuated by the leadership of Dr. A. Bruce Curry directed student thought into constructive channels. The importance of wide-reaching issues in the Christian world was brought to the campus in a series of meetings by Dr. John R. Mott. The spirit of understanding has been sought through student industrial, bi-racial, and world fellowship groups, and the spirit of service worked out by a large number of students through work in settlement houses, hospitals, and through Americanization work. Particularly through the work of the social committee a definite effort was made to establish a spirit of friendliness between groups and individuals. That we are not only a local association but a unit of a national movement was made clear through the Geneva summer conference attended by thirty-eight Minnesota women.

*Sororities.*—There are at the present time nineteen national sororities, one local sorority which hopes in the near future to become national, one sorority for colored women, and a local sorority for Jewish women. With the eight new sororities formed in the last four years, it has seemed unwise to encourage new groups to organize until those already here have become more firmly established. Pre-school rushing was used again. Invitations were given out through this office, and all parties ended on the Monday night of the opening week. The eligibility of all pledges for initiation came through Pan-Hellenic through this office. All sororities maintain houses, their chaperones are approved through this office, and monthly meetings of the chaperones are held with the dean of women and the head of the Housing Bureau for the discussion of problems that may arise.

Great interest is shown by the sororities in the comparative tables of scholarship as compiled in the office of the dean of student affairs. The figures for 1923-24 indicated very clearly that the sorority average is lower than that of the general average of all women in the University. The general average was 1.310. The sorority average was 1.28. Eight groups had an average equal to, or better than, the general average for women, and twelve were below this average. None of them, however, fell below the "C" average which must be maintained for graduation. When the ruling regarding the maintenance of a "C" average by campus organizations was announced from the president's office, the sororities voted to co-operate in emphasizing scholarship, first, by attempting to raise the scholarship of their own members, and, second, by refraining from using first quarter freshmen on any drives or selling campaigns, thus safeguarding their time. The question of second quarter rushing came up for vote, but was rejected by a small margin.

The alumnae of the sororities, organized as the Twin City Pan-Hellenic, are also working with the active chapters in an effort to raise

scholarship. In order that the groups might have a clearer realization of standings from time to time, this office last year required each chapter to send in a detailed statement of the grades of each of its members at the end of the fall and of the winter quarters. This was then figured on the same basis as the annual report from Dean Nicholson's office, with the exception that the chapter ratings showed the average of the active group, the pledges, and finally the total. This report was confidential between the sororities and this office, and was simply for the purpose of showing them where they needed to improve their work. With one exception, the grades of the pledges were distinctly below those of the active group. The same plan will be followed this year, as the sororities felt that it was very helpful. They have accepted the Women's Self-Government ruling that presidents of sororities must maintain a "C" average during their tenure of office.

*Shevlin Hall.*—Shevlin Hall is in constant use especially for the various organized groups of women. Its social rooms are hardly large enough for the number of group activities that have to be conducted in them. The rest rooms are also in continuous service. With the opening of the new library, however, the study room is not in as great demand. The Shevlin cafeteria has served about 450 girls for luncheon per day.

*Chaperonage.*—The chaperonage of all campus parties is under the supervision of the dean of women. An effort has been made to confine parties to Friday and Saturday evenings. The meeting of the rooming house chaperones and those of the sorority house chaperones have enabled the dean of women and the head of the Housing Bureau to keep in close touch with this phase of chaperonage.

The ruling passed by the All-University Student Council in co-operation with the Inter-Fraternity Council and the Pan-Hellenic Association for the registration of all parties in this office has worked with a fair degree of success. In the spring quarter, the Inter-Fraternity Council, at the request of this office, voted to confine the parties given by its members to Friday and Saturday nights, excepting in the case of spring formals. This is a very helpful step in the right direction. Complaint comes to the office that some of the groups, especially the professional fraternities, run their parties so late as to disturb the householders in their neighborhoods. Unfortunately, there are no university rulings covering these matters. The professional groups are not members of the Inter-Fraternity Council and are, therefore, not bound by its regulations. The situation would be far more satisfactory to the students themselves as well as to this office if there were definite and formulated university regulations regarding social gatherings.

FINANCIAL AID TO STUDENTS

*Loan funds.*—The following loan funds are administered through the office of the dean of women:

- Faculty Women's Club loan fund
- Faculty Women's Club emergency loan fund
- The Jessie Ladd loan fund (formerly the Minneapolis Alumnae Club loan fund)
- The St. Paul Alumnae Club loan fund
- The Minneapolis College Club loan fund
- The Pathfinders Club loan fund
- The Home Economics Self-Government Association loan fund

From the Faculty Women's Club loan fund, April, 1924, to April, 1925, 62 students borrowed a total of \$3,456.92; 60 students paid back a total of \$2,753.69. We also have the interest from \$2,000 invested in bonds to add to the loan fund.

Small amounts have been given out as short time loans from the two Alumnae Club loan funds, the College Club, and the Pathfinders Club loan funds—a total of \$1,298.50 in loans given out, and of \$1,073 in loans repaid.

Interest on the Edward M. and Effie R. Johnson Foundation fund of \$5,000 was available in the spring quarter. The interest from this fund is used for loans to women students and will be administered through the office of the dean of women.

*Scholarships.*—Thirty-two scholarships, totaling \$3,925 have been awarded to women through this office:

Mrs. Elbert L. Carpenter scholarship.....	\$100.00
Mrs. George C. Christian scholarship.....	100.00
National Council of Jewish Women, Minneapolis Branch, donors of the Nina Morais Cohen scholarship.....	125.00
Mrs. George P. Douglas scholarship.....	100.00
George H. Partridge scholarship.....	500.00
P. E. O. Organization scholarship.....	100.00
College Women's Club of Minneapolis .....	600.00
College Women's Club of St. Paul .....	1,050.00
Faculty Women's Club—student section.....	150.00
Woman's Club of Minneapolis—Arts and Letters section, and Home and Education section.....	300.00
Women's Self-Government Association .....	800.00

Respectfully submitted,

ANNE DUDLEY BLITZ, *Dean*

## THE DEAN OF STUDENT AFFAIRS

*To the President of the University:*

SIR: I herewith submit my report, as dean of student affairs, for the year 1924-25.

The college year just closed has been an outstandingly successful one, from the standpoint of general morale, harmony, and good will among and between faculty and students, and the intelligent and willing cooperation of the student body in considering and working for the best interests of the University.

*Student councils.*—In addition to the councils in the colleges of Law and Agriculture and Engineering, the Council of Science, Literature, and the Arts has again become active, also the Council of the College of Pharmacy has, this spring, been re-established.

The All-University Council has, by its work this year, its willing cooperation, and intelligent study of its problems, carried on successfully the high standards of efficiency handed on to it by its predecessors.

*Student publications.*—There have been no additions to the list of recognized all-university publications: the *Minnesota Daily*, the annual year book (the *Gopher*), and the *Ski-U-Mah*. These three publications have completed a very successful year. They have each been constructive forces for good on the campus.

Among the college publications the *Gopher Business News*, a School of Business publication, is new. It will probably be issued quarterly, its purpose is to build a closer relation between faculty, students, and alumni.

The *Gopher Countryman*, established a year ago, is not a new publication. It is the old publication, the *Farm Review*, reorganized and established on an entirely new basis, as the College of Agriculture publication.

Of the other college publications, the *Techno-Log*, of the College of Engineering, has adopted a new constitution which will, I believe, bring it more closely in contact with the students of that group, to the advantage of both the publication and the student body.

There has been no change in the case of the *Law Review*, or the *Minnesota Quarterly*, of the College of Science, Literature, and the Arts.

*Finances.*—Of the all-university publications, the *Minnesota Daily* and the *Gopher* have completed the year with all bills paid and substantial balances on the right side of the ledger. The *Ski-U-Mah* closes the year with a book deficit of \$57.53. This, instead of being a point for criticism, calls for congratulation and commendation, as it means all bills of the year cared for and the wiping out of an accumulated deficit from the past of about \$800. The books of each of these publications have been carefully audited and a final report for the year made.

In the case of the college publication the *Gopher Business News*, of the School of Business, which has just started, its finances will be under the supervision of the faculty as is the case with the *Law Review* and the

*Minnesota Quarterly.* In each of these cases the responsibility for the finances rests equally on faculty and students.

The finances of the Senior Prom, the Junior Ball, the Military Ball, and Homecoming were carefully and efficiently handled, showing in each case small balances after a prompt settlement of all bills.

The dramatic organizations were not successful financially during the year, as a whole, tho with one exception all were enabled to close their accounts successfully through reserve sources.

Class organizations have, I believe, closed the year with no deficits.

In the case of fraternities and sororities there have been practically no calls from creditors for assistance in collecting accounts against these groups. There has been a steady and consistent improvement in this respect during the last few years.

*Dramatics.*—There has been a very significant change in the dramatic situation this year. Four of the recognized clubs have combined to form one organization known as the Minnesota Masquers, membership with a waiting list drawn from the entire student body, thus making it in effect the all-university dramatic club. Two of the clubs of the past, feeling that they have a special niche to fill in the dramatic activities which would be lost by affiliation, have not as yet joined this general group.

*Fraternities and sororities.*—Detailed reports covering these groups will be submitted by Dr. Holman, president of the Interfraternity Council and by Dean Blitz. A progressive step in connection with these groups was taken by the University this past year, calling upon all of these groups and other groups with a like organization, to maintain a scholastic group average of C, groups failing to maintain such an average to be placed on probation. This step is generally approved by the national organizations. The University will, I believe, receive hearty co-operation from local groups and the alumni, if the University offers them the opportunity.

*Organizations in general.*—Any organization of students, in order that it may be recognized by the University, with the privileges that go with such recognition, must apply to the Senate Committee on Student Affairs for such recognition, submitting their constitution and explaining their purposes. There are listed in the records in this office 172 such organizations. This list covers organizations of a permanent character such as fraternities and dramatic clubs and a comparatively large number which are ephemeral in character, such as groups from some high schools, or from some locality in the country, or groups representing political beliefs. As a rule these have one or two meetings and then disappear until some special reason calls them to life again.

New organizations this year are Alpha Delta Sigma, a professional advertising fraternity; Phi Delta Gamma, a professional forensic fraternity; Phi Mu, a national social sorority; Phi Mu Alpha, professional music fraternity; Zeta Alpha, a local sorority; Alpha Delta Zeta, a local social organization of men in Agriculture and Forestry; Delta Sigma Pi, local business and commerce students; Dodeca Club, professional architectural; Sigma Omicron Lambda, local organization of medical students;

Black Knights Club, an interfraternity group of the class of 1928; Kappa Phi Club, a group of Methodist Episcopal students; Swedish Literary Society; Walther League Society, of Lutheran students; Ye Lantern Players, a dramatic organization of students in the Extension Division; Anti-Compulsory Military Drill League, an organization of students to work for optional military drill in the University.

*Self-supporting students.*—The following tabulation gives interesting comparisons for the fall of 1924-25 and is reasonably indicative of facts:

	Men	Women
Wholly self-supporting .....	1,193	649
Partly self-supporting .....	2,382	654
Wholly dependent .....	874	1,588
No report .....	361	559

Figures show that 45 girls work for their board and room.

*Loan funds.*—From the university trust funds, loans to students have been approved by this office this past year as indicated by the following tabulation:

College	Seniors	Juniors	Sophomores	Freshmen
Academic .....	7	7	17	10
Business .....	6	2	1	..
Agriculture, Forestry, and Home Economics .....	12	10	7	4
Dental .....	14	9	4	3
Engineering .....	14	13	1	4
Law .....	..	1	1	..
Medical .....	13	10	13	14
Pharmacy .....	2	3	1	..

From special funds not under the jurisdiction of the University, loans have been made as follows:

Rotary .....	13
Scottish Rite Masonic.....	18
Midland .....	14
Charles Goodnow Fund.....	4

In addition to these there have been three students needing financial help, who have, on recommendation of this office, been cared for by the Rotary clubs in the territory from which the students came.

In line with this it is interesting to note the personal interest taken in our students by the Minneapolis Rotary Club. This club entertained all student sons and daughters or sisters of out-of-Minneapolis Rotarians twice during the year at lunch. The time should come when the various clubs of all the cities and towns of the state will take a real and active interest in this student body.

*Veterans' Bureau trainees.*—At the close of this past year we had on our records 228 trainees, 59 of whom were war specials, the smallest number since the University started working in co-operation with the bureau.

Officially all trainees will finish their work by June, 1926. There will, of course, be a few cases of extension of time, but this coming year will practically finish this work.

EDWARD E. NICHOLSON, *Dean*

## THE GENERAL EXTENSION DIVISION

*To the President of the University:*

SIR: I take pleasure in submitting herewith the report of the General Extension Division for the academic year beginning July 1, 1924, and ending June 30, 1925. The scope of this report includes the activities of the Department of Extension Classes including all short courses, the Department of Correspondence Instruction, the Municipal Reference Bureau, and the Department of Community Service. In the latter department are included the university lecture and lyceum system, the work falling under the Bureau of Visual Instruction, the Drama Service, and the miscellaneous activities having to do largely with service for community organizations. In addition there is a brief report concerning a new activity which was undertaken for the first time during the year under review—namely, the organization of a state-wide music contest. While general statements about all of these activities are contained in the body of this report, most of the tabulated statistical matter has been set aside in an appendix where it may be consulted by those who are interested in details of growth and in comparisons with previous years.

Dr. Charles L. Bane, assistant professor of psychology in this division, resigned at the close of the year for the purpose of accepting a position in the Junior College at Hibbing, Minnesota. His successor in the Extension Division has not been chosen at the time of making this report. Mr. John S. Shadbolt, instructor in business and head of our Duluth office, also resigned, effective June 15. The vacant position as head of the Duluth office has been filled by the selection of Mr. J. L. Macleod of Duluth, who will begin his work on August 15, 1925.

Students in extension classes have evinced great satisfaction over the action of the University Senate in December, 1923, in declaring that students of extension classes in the Twin Cities and Duluth were thereafter to be considered students in residence. Some school systems, notably those of Minneapolis, Duluth, and Hibbing have made promotion in rank and increase of salary contingent upon the accumulation of credits toward a degree. Attendance on extension classes and at the Summer Session has enabled many teachers to advance themselves thus in grade and in salary.

The downtown offices in Minneapolis, St. Paul, and Duluth, have proved exceedingly serviceable not only in dividing the congestion brought about during the rush of registration, but also in more effectively organizing their respective districts for the purpose of making the advantages and facilities of extension work better known. The rent of these downtown offices is paid wholly out of fees. It should be borne in mind that students of extension classes are nearly always those who are occupied during the day in earning a livelihood. Their opportunities for registration and for consultation are confined to noon time and the evening hours. The downtown

offices are a great convenience for people so situated and they are an additional evidence to the public of the flexibility of our organization in its endeavor to bring educational opportunity to the very doors of the people.

The Municipal Reference Bureau has experienced a year of increased activity and of enhanced recognition on the part of the public for meritorious service. Non-partisan in its viewpoint and without bias, it procures for busy city officials trustworthy information and disinterested advice on matters which are oftentimes of great importance to the inhabitants of the cities, towns, and villages of the state. In addition careful studies of several vexatious municipal problems have been made and have been published in handy form for the convenience of city officers and interested citizens. These studies are carefully and solidly done and represent a great amount of research. The co-operation of the Municipal Reference Bureau with the League of Minnesota Municipalities has now existed for twelve years and is strengthened and made more profitable each year.

The student organizations to which I made reference in my annual report for last year, have shown an unusual amount of activity during the year under review. Their officers have been for the most part keen, aggressive, and endowed with good judgment. Some errors of overzealousness may be ascribed to youth and lack of experience. There were relatively very few of such blunders. These student organizations are keenly interested in obtaining what they regard as proper academic recognition and standing, and in having all impediments which they regard as purely academic or traditional removed from the path of their progress toward full university standing, including credits and degrees. They are impatient at what they regard as purely formal requirements and are inclined to insist upon their rights as citizens of Minnesota to have whatever the University offers made immediately accessible. They are particularly vexed at the attitude of the College of Engineering in withholding credit toward a degree from extension students except under what they regard as onerous conditions. It is hoped that these matters may soon meet adjustment.

On another page will be found a brief report of the work done during the year by Mr. I. W. Jones in organizing a state-wide music contest. This contest was conducted first in districts and culminated in a final contest held at the University of Minnesota in a program lasting two days. The results of the contest seem to have been very satisfactory, not only to the authorities at the University but also to the participants. In order to get the idea well established we have felt justified in continuing the project for another year.

Through the medium of the short course, the Extension Division has been able to render one of its most valuable services to those who are able to give but a brief time to educational effort. The short course as an educational device has been emphasized this year more than ever before. Its merit is extreme flexibility in method, scope, and duration, and concentration upon limited objectives or specific fields of endeavor. The short course may demand the full time of the student for a period varying from three days to three months, or it may take only his evening hours two or



three times a week for six, eight, ten, or twelve weeks. The range of subjects covered by short courses has been widening during the past year. In addition to the Short Course in Embalming which has been conducted for several years, we have widened out into the fields of medicine and dentistry as well as of textiles in connection with Twin City stores. Most of the short courses are intended for graduates of the professional schools who need to have their knowledge and technique brought up to date in certain specific subjects. A glance at the statistical tables in another part of this report will indicate the nature of the subjects offered and the response on the part of the public.

On the whole it may be safely stated that the year 1924-25 was the most successful year for the General Extension Division since its founding in 1913. More people than ever before have been reached, more courses have been offered, more lines of influence and service have been spread over the state. The Extension Division has established for the University an enormous number of contacts with the people who support the institution.

In the last days of the year under review the Extension Division was enabled to move from its cramped quarters in the Main Engineering Building, to its new and roomy quarters occupying the whole fourth floor of the new Administration Building. In addition space and facilities for the Department of Visual Instruction and for the Drama Service have been provided in the attic of the building. These facilities include a projection room, a dark room, a photographic gallery, a slide storage room, and two large vaults for the storage of films. The release from overcrowding is very welcome and will no doubt be reflected in the increased efficiency with which our work will be conducted.

### EXTENSION CLASSES

During the year extension classes have been conducted at Minneapolis, St. Paul, Duluth, Hibbing, Virginia, Two Harbors, Eveleth, and Faribault. The total number of such semester classes conducted during the year was 449. The total number of student semester registrations in academic or collegiate subjects for the year was 4,553; in business subjects 2,394; in engineering subjects 1,368; making the total number of student semester registrations for the year 8,315. The total number of individuals taking extension class work during the year was 4,599. In the number of courses offered, in the number of instructors used, in the number of semester registrations, in the number of individuals reached, and in the total amount of fees collected, this has been the biggest year in the history of the division. The total amount of tuition fees for extension classes collected during the year was for collegiate subjects, \$46,068.40; for business subjects, \$26,190.57; for engineering subjects, \$15,275.34; or a total of \$87,534.31. The records show a gain over the preceding year of 1923-24 in semester registrations of 1,078; in individual students 327; in tuition fees collected \$16,926.35.

## SHORT COURSES

During the year under review 22 short courses in various subjects were conducted, these courses lasting from three days to twelve weeks. There were 9 more short courses conducted this year than during the preceding year. The total number of registrations for these short courses was 603, and the receipts in tuition fees were \$8,370.25.

In the Appendix may be found the tabulated list of extension classes for each of the two semesters of the year, with the names of the instructors and the number of students registered in each class, and the amount of fees paid by these students. There will also be found certain tables of comparisons with previous years, and a certain amount of other miscellaneous information touching these extension classes. In the same place will also be found similar statistical tabulations and details for all of the short courses conducted during the year.

## CORRESPONDENCE STUDY DEPARTMENT

The number of enrolments in regular home study courses continues to increase. There were 1,102 enrolments in force at the beginning of the fiscal year. There have been 1,386 new enrolments. Thus a total of 2,488 enrolments has been handled by the department during the year, an increase of 5.4 per cent over the previous fiscal period.

The special free course for mothers, conducted in co-operation with the State Board of Health and the Federal Childrens Bureau, still attracts more students than the regular courses, altho there has been a falling off in new enrolments. There were 1,340 enrolments in force in this course at the beginning of the year, which, added to 2,056 new enrolments, makes a total of 3,396 enrolments handled during the year, a decrease of 17 per cent from the previous one.

Altogether, 5,884 enrolments have been handled in the twelve-month period, 3,442 of which have been new enrolments. The fees paid by students render this department entirely self-supporting. Tables summarizing the work of the department for 1924-25 and showing the details of registration as well as comparisons with previous years, will be found in the Appendix.

## DEPARTMENT OF COMMUNITY SERVICE

As predicted last year, our income for lyceum in 1924-25 is several thousand dollars less than it has ever been before. The outlook for next season, however, is much brighter for our present bookings are approximately \$10,000 higher than for the year just closing with prospects for considerable booking still to be done during the fall months. I do not believe we are too optimistic when we say that the Department of Community Service will pay out in 1925-26.

The Drama Branch of the department has made a substantial increase in its service and that work now takes the entire time of one girl from mid-September to mid-May. We mailed 4,247 copies of plays out from

the department this year and of that number only six have been lost. We believe that is a very good record.

In the Visual Instruction Branch we did not serve quite as many communities as last year and the total attendance at our programs was smaller but our gross receipts were \$120 more than last year. With the excellent new pictures which were recently purchased, we should be able to have a very substantial increase both in communities served and in gross receipts for the service in 1925-26.

In view of the situation which has developed in our Lyceum Department, in which during the past three years there has been developing a constant deficit, the question may well come up for decision this year whether or not this branch of our work should be continued. It is apparently safe to believe that during 1925-26 no additional deficit will be incurred. Nevertheless, it might be well to consider whether the conditions which originally brought about the organization of this type of work, still demand its continuance. The financial difficulties of the Northwest during the past four years are now apparently on the mend. These difficulties have been reflected in the receipts of the Lyceum Department. With a sufficient volume of business this department may well be made self-sustaining, and that goal should be reached at the earliest possible moment. If, on the other hand, the Minnesota communities can now get the kind of service they need in this department at a fair cost from commercial bureaus, then it is a question if the University should continue in that business. The question will be carefully surveyed this year, and a recommendation made to the university authorities in due time.

Tabulated details of the services rendered and comparisons with previous year will be found in the Appendix of this report.

#### MUNICIPAL REFERENCE BUREAU

*Inquiries.*—Inquiries requiring special reports numbered 415 as against 356 of the previous year. The inquiry service, measured by the recorded reports, has trebled within the last five years. The 415 inquiries for the year 1924-25 are classified by subject as follows:

Municipal government .....	23	Streets and bridges.....	21
People's part in government.....	17	Sewers .....	10
Municipal corporations .....	35	Garbage disposal .....	1
Forms of municipal government... ..	13	Public utilities (general).....	16
Legislation .....	4	Electricity .....	12
Administration .....	20	Gas .....	2
Finance .....	24	Water .....	23
Public safety (general).....	13	Telephones .....	2
Fire protection .....	9	Education .....	3
Public health .....	3	Miscellaneous .....	98
Public welfare .....	47		
City planning and zoning.....	14	Total .....	415
Public works (general).....	5		

*Material lent.*—There were 900 books and pamphlets lent during the past year. The library service should prove to be of more use in the future as all of the material was cataloged for the first time during the last year.

## PUBLICATIONS

*Minnesota Municipalities*, the official magazine of the League of Minnesota Municipalities, financed by the league and edited by the bureau staff, has been published bimonthly as heretofore. The April and June issues were expanded to include forty-eight pages. *Minnesota Municipalities* is now sent to approximately 2,000 mayors, clerks, councilmen, attorneys, health officers, engineers, superintendents of plants, and fire chiefs.

Seven legislative bulletins containing information upon legislative measures affecting cities and villages, and notifying officials of the hearings, were prepared and mailed during the legislative session to mayors, clerks, and attorneys.

One monograph on *City and Village Planning and Zoning* by George H. Herrold, city planning engineer, St. Paul, was printed and widely distributed.

*The Law of Special Assessments*, a book being prepared jointly by Joe R. Pratt, staff assistant, and Harold F. Kumm, of the Political Science Department, will be ready for distribution in the fall. Mr. Pratt is annotating the 348 separate statutes which affect special assessments and Mr. Kumm is annotating the court decisions relating thereto.

## CONFERENCES

The twelfth annual convention of the League of Minnesota Municipalities, arranged by the bureau, was held at Alexandria, Minnesota, June 10, 11, 12. Three hundred thirty-three municipal officials and other interested citizens were present to discuss and take action upon problems of municipal administration and policy.

The bureau, in co-operation with the Minnesota Tax Association, arranged a two-day session at the University, January 24-25, for a discussion of the problems of taxation and finance.

On January 26, a so-called legislative conference was held at the St. Paul Hotel to discuss and present legislative problems of interest to the various municipalities throughout the state. This conference was under the auspices of the League of Minnesota Municipalities but, as with the convention, was arranged by the bureau staff. Two hundred fifty interested municipal officials were present at this conference and very thoro explanations and discussions of various legislative questions were presented.

## LEGISLATIVE REFERENCE SERVICE

An attempt was made this year to establish a regular legislative reference service. Through the initiative of a special committee three conferences were held with representatives of the State Law Library, State Historical Society, University Law Library, Bureau for Research in Government, Political Science Department, and the Municipal Reference Bureau. As a result of co-operative action bibliographies were prepared at the bureau upon important subjects confronting the legislature. These bibliographies were made available to the members of the legislature through the State Law Library. While the service was used by only a

few legislators it may be considered that the efforts were perhaps worth while by way of a gesture towards a more complete service in the future.

The combined activities of the bureau during the last year have increased to an extent most encouraging to those interested in improving municipal administration and organization by the dissemination of information and education in these fields. Especially is this made possible by the donation by the League of Minnesota Municipalities of the two staff assistantships devoted to research on municipal subjects.

### MUSIC

The project of developing a contest in music among the high schools of the state was begun with the appointment of Irving W. Jones, who assumed the position of assistant professor of music in the Extension Division in September, and has been carried to what seems to be a very successful conclusion for the first year.

The co-operation of the music section of the Minnesota Education Association was secured at the annual meeting in November and a committee, representing school superintendents, music supervisors, and music departments of state teachers colleges, was appointed to aid the Extension Division in securing state-wide interest. As a result of this joint effort a bulletin of the University was issued setting forth in detail the scheme of the contest, rules, entry and eligibility requirements, selections to be performed, and other details. This bulletin was sent to every school system in the state, and was the principal means of securing the participation of the high school music departments.

Preliminary contests were held in nine district centers: Bemidji, Duluth, Moorhead, St. Cloud, St. Paul, Marshall, Mankato, Winona, and Chisholm. Something over 200 entries were received, representing over 90 different schools with approximately 3,500 different pupils competing. The winners in each contest class in these preliminary contests became the competitors in the final state contest held at the University, May 14 and 15. Thirty-five high schools were represented, participants to the number of about 1,000 coming from all corners of the state. Eighteen different contest events were run off in six programs during the two-day session.

The interest and enthusiasm manifested by the efforts made by competing schools to bring their pupils to the contest centers was almost surprising, considering that no similar contest had ever been attempted in the state before. This was particularly true at the final contest where a number of schools transported groups of 40 or 50 as great a distance as 250 miles, sustaining in addition their expenses while at the contest. In every case the contestants displayed as keen an enthusiasm as could be expected in the case of more spectacular athletic contests. Many verbal and written expressions of satisfaction have been received from school heads, and there is every indication that the interest and participation will be at least doubled during the coming year.

## CONCLUSION

At various times during the past five years the project has been mooted of organizing in the University an extra-mural college, to be administered and directed by the staff of the General Extension Division. This project has merit, and the interest in it should be revived and the project itself reviewed in the light of present conditions.

The cause of adult education is advancing with rapid strides all over the world. Its development in Minnesota is limited only by the means and facilities at hand. The staff of the General Extension Division feels it a privilege to be given a share in this thoroly modern and democratic movement.

Respectfully submitted,  
RICHARD R. PRICE, *Director of University Extension*

## APPENDIX

## EXTENSION CLASSES

SUMMARY FOR THE YEAR 1924-1925

NUMBER OF STUDENT REGISTRATIONS

	First Semester	Second Semester	Year
<b>COLLEGIATE</b>			
Minneapolis .....	1,241	1,119	2,360
St. Paul .....	555	324	879
Duluth .....	509	452	961
Hibbing .....	79	69	148
Virginia .....	82	70	152
Two Harbors .....	37	...	37
Eveleth .....	16	...	16
Total .....	2,519	2,034	4,553
<b>BUSINESS</b>			
Minneapolis .....	816	540	1,356
St. Paul .....	369	305	674
Duluth .....	150	97	247
Virginia .....	29	20	49
Faribault .....	53	15	68
Total .....	1,417	977	2,394
<b>ENGINEERING</b>			
Minneapolis .....	611	437	1,048
St. Paul .....	110	29	139
Duluth .....	89	92	181
Total .....	810	558	1,368
<b>Totals .....</b>	<b>4,746</b>	<b>3,569</b>	<b>8,315</b>

THE GENERAL EXTENSION DIVISION

NUMBER OF EXTENSION CLASSES			
	First Semester	Second Semester	Year
<b>COLLEGIATE</b>			
Minneapolis	58	61	119
St. Paul	25	22	47
Duluth	22	24	46
Hibbing	4	5	9
Virginia	5	6	11
Two Harbors	2	..	2
Eveleth	1	..	1
Total	117	118	235
<b>BUSINESS</b>			
Minneapolis	32	24	56
St. Paul	18	18	36
Duluth	7	8	15
Virginia	1	1	2
Faribault	3	1	4
Total	52	61	113
<b>ENGINEERING</b>			
Minneapolis	34	35	69
St. Paul	10	5	15
Duluth	7	10	17
Total	51	50	101
Totals	220	229	449

GRAND SUMMARY FOR THE YEAR 1924-1925

NUMBER OF STUDENT SEMESTER REGISTRATIONS

	First Semester	Second Semester	Year
Total collegiate	2,519*	2,034*	4,553*
Total business	1,417*	977*	2,394*
Total engineering	810*	558*	1,368*
Totals	4,746*	3,569*	8,315*

Total number of registrations (student) for the year 1924-25 was 8,315.

Total number of individuals taking work 1923-24 was 4,599.

FEEES

	First Semester	Second Semester	Year
Total collegiate	\$26,620.85	\$19,447.55	\$46,068.40
Total business	15,559.59	10,630.98	26,190.57
Total engineering	9,343.89	5,931.45	15,275.34
Totals	\$51,524.33	\$36,009.98	\$87,534.31

\* This is the total number of student semester registrations for sixteen weeks each.

## THE PRESIDENT'S REPORT

COMPARISON OF THE ENROLMENT OF EXTENSION CLASSES FOR THE  
YEAR 1923-1924 AND THE YEAR 1924-1925

## SUMMARY OF STUDENT REGISTRATIONS

	1923-24	1924-25	Loss	Gain
Total collegiate .....	3,522	4,553	....	1,031
Total business .....	2,471	2,394	77	....
Total engineering .....	1,244	1,368	....	124
Totals .....	7,237	8,315	77	1,155
Net gain 1924-25=1,078				
Total number of individuals.....	4,272	4,599	....	327

## SUMMARY OF FEES

	1923-24	1924-25	Loss	Gain
Total collegiate .....	\$34,906.11	\$46,068.40	....	\$11,162.29
Total business .....	22,643.15	26,190.57	....	3,547.42
Total engineering .....	13,058.70	15,275.34	....	2,216.64
Totals .....	\$70,607.96	\$87,534.31	....	\$16,926.35
Net gain 1924-25=\$16,926.35				

## COMPARATIVE STATEMENT OF EXTENSION CLASSES, 1920-1925

COLLEGIATE COURSES	1920-21	1921-22	1922-23	1923-24	1924-25
Number of classes.....	88	118	181	191	235
Number of instructors from Extension Division ....	1*	1*	4	4	5*
Number of instructors from outside Extension Div..	47	53	70	60	72
Number of semester reg- istrations .....	3,118	4,027	3,443	3,522	4,553
Fees received from regis- trations .....	\$11,844.00	\$24,622.00	\$36,664.59	\$34,906.11	\$46,068.40
Salaries paid to instructors in Extension Division..	\$450.00	\$200.00	\$9,850.00	\$9,650.00	\$8,000.00
Fees paid to instructors not on Extension staff..	\$17,664.85	\$29,227.26	\$27,298.82	\$22,578.48	\$31,807.24

\* Full time for two instructors; part time for three.

## COMPARATIVE STATEMENT OF EXTENSION CLASSES, 1920-1925

BUSINESS COURSES	1920-21	1921-22	1922-23	1923-24	1924-25
Number of classes.....	102	106	122	123	113
Number of instructors from Extension Division ....	3*	3*	4	6†	4
Number of instructors from outside Extension Div..	36	42	35	30	32
Number of semester reg- istrations .....	2,713	2,916	2,793	2,471	2,394
Fees received from regis- trations .....	\$20,917.50	\$22,289.50	\$28,124.33	\$22,643.15	\$26,190.57
Salaries paid to instructors in Extension Division..	\$6,350.00	\$7,180.00	\$11,600.00	\$11,830.00	\$9,950.00
Fees paid to instructors not on Extension staff..	\$14,839.95	\$22,087.50	\$17,528.04	\$17,180.00	\$16,950.00

\* Full time for two instructors, part time for one.

† Full time for four instructors, part time for two.



COMPARATIVE STATEMENT OF EXTENSION CLASSES, 1920-1925

ENGINEERING COURSES	1920-21	1921-22	1922-23	1923-24	1924-25
Number of classes.....	44	44	67	81	101
Number of instructors from Extension Division ....	1	1	2	2	2
Number of instructors from outside Extension Div..	19	16	19	23	24
Number of semester registrations .....	710	859	1,033	1,244	1,368
Fees received from registrations .....	\$5,400.00	\$5,997.50	\$10,022.43	\$13,058.70	\$15,275.34
Salaries paid to instructors in Extension Division..	\$2,400.00	\$2,750.00	\$6,250.00	\$6,250.00	\$6,250.00
Fees paid to instructors not on Extension staff..	\$6,122.50	\$7,687.50	\$6,222.00	\$8,951.00	\$8,410.00

COMPARATIVE STATEMENT OF EXTENSION CLASSES, 1920-1925

ALL COURSES	1920-21	1921-22	1922-23	1923-24	1924-25
Number of courses.....	234	268	370	395	449
Number of instructors from Extension Division ...	4	4	10	12	11
Number of instructors from outside Extension Div..	104	111	124	123	128
Number of semester registrations .....	6,541	7,802	7,269	7,237	8,315
Fees received from registrations .....	\$38,161.50	\$52,949.50	\$74,811.35	\$70,607.96	\$87,534.31
Salaries paid to instructors in Extension Division..	\$9,200.00	\$10,130.00	\$27,700.00	\$27,730.00	\$24,200.00
Fees paid to instructors not on Extension staff..	\$38,627.00	\$59,002.26	\$51,048.86	\$48,709.48	\$57,167.40

SHORT COURSES, 1924-1925

SHORT COURSES FOR GENERAL PRACTITIONERS

1. Obstetrics and Gynecology, and Pediatrics, September 15-27, 1924—Receipts, 28 registrations at \$25.00..		\$ 700.00
2. Laboratory Diagnosis, Applied Therapeutics, and X-Ray, September 22-27, 1924—Receipts, 33 registrations at \$15.00.....		495.00
Total receipts .....		\$1,195.00
Expenditures for two above courses:		
Postage and printing .....	\$337.60	
Fees to instructors, secretary.....	290.75	
Total expenditures .....		\$ 628.35
Balance .....		\$ 466.65
3. Physiotherapy, February 9-14, 1925—Receipts, 120 registrations at \$10.00.....		\$1,200.00
Expenditures:		
Printing and advertising.....	\$260.24	
Fees—Dr. Granger .....	300.00	
		\$560.24
4. Practical Preventive Medicine, March 23-28, 1925—Receipts, 8 registrations at \$15.00.....		\$120.00
Expenditures: Printing and advertising.....	\$163.66	
Loss .....	\$ 43.66	
5. Neurology, June 8-10, 1925—Receipts, 3 registrations at \$12.50 .....		\$ 37.50

## THE PRESIDENT'S REPORT

6. Dermatology and Syphilis, June 11-13, 1925—		
Receipts, 3 registrations at \$12.50 } .....		\$97.50
4 registrations at \$15.00 } .....		
7. Radiology, June 15-17, 1925—		
Receipts, 3 registrations at \$12.50 } .....		202.50
11 registrations at \$15.00 } .....		
8. Orthopedics and Fractures, June 18-20, 1925—		
Receipts, 11 registrations at \$15.00 } .....		190.00
2 registrations at \$12.50 } .....		
		<hr/>
Total receipts .....		\$527.50
Expenditures for four short courses in Medicine and Surgery, June 8-20, 1925:		
Printing and advertising .....	\$304.45	
Fee for secretary and lantern man .....	41.00	
	<hr/>	
To July 1 .....	\$345.45	
9. Tuberculosis Institute for Nurses—		
Receipts, 112 registrations at \$3.00 .....	\$336.00	
Coupon tickets .....	184.00	
	<hr/>	
	\$520.00	
Expenditures: Printing and advertising .....	155.30	
	<hr/>	
Balance .....	\$364.70	
10. Tuberculosis for Practitioners—		
Receipts, 19 registrations at \$15.00 .....	\$285.00	
Expenditures: Printing and advertising .....	297.20	
	<hr/>	
Loss .....	\$ 12.20	
11. Traveling Medical Short Course at Fergus Falls and Moorhead, June 1 to August 30, 1925—		
Receipts, Fergus Falls .....	\$487.50	
Moorhead .....	487.50	
	<hr/>	
	\$975.00	
Expenditures to July 1 (5 meetings)—		
Instructors .....	\$325.50	
Printing .....	3.70	
Postage (5 meetings) .....	8.60	
	<hr/>	
	\$337.80	

## SUMMARY OF SHORT COURSES FOR GENERAL PRACTITIONERS

Course No.	Registrations	Receipts	Expenditures
1 .....	28	\$ 700.00 } .....	\$ 628.35
2 .....	33	495.00 }	
3 .....	120	1,200.00 .....	560.24
4 .....	8	120.00 .....	163.66
5 .....	3	37.50 } .....	345.45*
6 .....	7	97.50 }	
7 .....	14	200.50 }	
8 .....	13	190.00 } .....	155.30
9 .....	112	520.00 }	
10 .....	19	285.00 .....	297.20*
11 .....		975.00 .....	337.80*
	<hr/>	<hr/>	<hr/>
	357	\$4,822.50	\$2,488.00

\* Expenditures to July 1, 1925.

SHORT COURSES FOR DENTISTS

1. Miscellaneous (2 weeks period)—			
Operative Dentistry—Receipts, 2 registrations at \$25.00 .....		\$	50.00
Orthodontia—Receipts, 1 registration at \$25.00...			25.00
Prosthetics (2 weeks)—Receipts, 2 registrations at \$25.00 .....			50.00
Crown and Bridge Work—Receipts, 2 registrations at \$25.00 .....			50.00
2. Nitrous Oxide and Ethylene Gas Anesthesia and Extraction, November 4 to December 4, 1924—			
Receipts, 23 registrations at \$16.00.....			368.00
Expenditures: Instructors .....	\$299.00		
3. Monson Principles, January 6 to February 6, 1925—			
Receipts, 28 registrations at \$16.00.....			448.00
Expenditures: Instructors .....	375.00		
4. Prosthetics, February 16 to March 11, 1925—Receipts,			
24 registrations at \$16.00.....			384.00
Expenditures: Instructors .....	312.50		
5. Nitrous Oxide and Ethylene Gas Anesthesia and Extraction for Dental Nurses, February 17 to March 19, 1925—Receipts, 29 registrations at \$10.00 .....			
			290.00
Expenditures: Instructors .....	227.00		

SUMMARY OF SHORT COURSES FOR DENTISTS

Course No.	Registrations	Receipts	Expenditures
1 .....	7	\$ 175.00	.....
2 .....	23	368.00	\$299.00
3 .....	28	448.00	375.00
4 .....	24	384.00	312.50
5 .....	29	290.00	227.00
Total .....	111	\$1,665.00	\$1,213.50

SHORT COURSE IN EMBALMING

January 2 to March 27, 1925

Receipts—32 registrations at \$47.00.....	\$1,504.00	
1 registration at \$14.10.....	14.10	
	<hr/>	\$1,518.10
Expenditures:		
Printing and advertising.....	\$ 94.75	
Fees and expenses.....	773.75	
	\$ 868.50	\$ 868.50
Balance .....		\$ 649.60

SHORT COURSES IN TEXTILES, AND COLOR AND DESIGN

1. Textiles—Dayton's, October 9 to December 11, 1924—			
Receipts, 17 registrations at \$3.50.....		\$	59.50
Expenditures: Instructor .....	\$50.00		
2. Color and Design—Dayton's, October 9 to December 30, 1924—Receipts, 21 registrations at \$3.50.....			
			73.50
Expenditures: Instructor .....	50.00		
3. Color and Design—Powers, January 8 to March 12, 1925—Receipts, 32 registrations at \$3.50.....			
			112.00
Expenditures: Instructor .....	50.00		
4. Textiles—Whitney-MacGregor's, January 28 to April 15, 1925—Receipts, 15 registrations at \$4.25.....			
			63.75
Expenditures: Instructor .....	60.00		
5. Textiles—Dayton's, February 9 to April 15, 1925—			
Receipts, 16 registrations at \$3.50.....			56.00
Expenditures: Instructor .....	50.00		

## THE PRESIDENT'S REPORT

## SUMMARY OF SHORT COURSES IN TEXTILES, AND COLOR AND DESIGN

Course No.	Registrations	Receipts	Expenditures
1 .....	17	\$ 59.50	\$ 50.00
2 .....	21	73.50	50.00
3 .....	32	112.00	50.00
4 .....	15	63.75	60.00
5 .....	16	56.00	50.00
Total .....	102	\$364.75	\$260.00

## SUMMARY OF ALL SHORT COURSES

Courses for	Registrations	Receipts	Expenditures
General practitioners .....	357	\$4,822.50	\$2,488.00
Dentists .....	111	1,665.00	1,213.50
Embalmers .....	33	1,518.10	868.50
Textiles and color and design.....	102	364.75	260.00
Total .....	603	\$8,370.35	\$4,930.00

CORRESPONDENCE STUDY DEPARTMENT  
REGULAR COURSES

Registrations in force July 1, 1924.....	1,102	
New registrations during year.....	1,386	
Total registrations in force during year.....	2,488	
Deduct: Completions .....	684	
Expirations .....	701	
Cancellations .....	133	
	1,518	1,518
Add: Reinstatements .....	970	
	225	
Registrations in force July 1, 1925.....	1,195	

SPECIAL COURSE IN HYGIENE  
(Maternity and Infancy)

Registrations in force July 1, 1924.....	1,340	
New registrations during year.....	2,056	
Total registrations in force during year.....	3,396	
Deduct: Certificates issued .....	198	
Completions without certificate.....	2,119	
Cancellations .....	90	
	2,407	2,407
Add: Reinstatements .....	989	
	25	
Registrations in force July 1, 1925.....	1,014	

## SUMMARY OF ALL COURSES

Registrations in force July 1, 1924.....	2,442
New registrations during year.....	3,442
Total registrations in force during year.....	5,884
Registrations in force July 1, 1925.....	2,209

INDIVIDUALS ENROLLED  
(Distinguished from courses registered for)

Regular courses .....	1,235
Special course in Hygiene.....	2,056
	<hr/>
Total new enrolments during year.....	3,291

NEW REGISTRATIONS BY COURSES

Astronomy .....	1	Journalism .....	30
Anthropology .....	6	Latin .....	37
Business .....	103	Mathematics .....	77
Economics .....	41	Music .....	2
Education .....	149	Physics .....	30
Engineering .....	8	Political Science .....	25
English .....	227	Psychology .....	71
Football .....	3	Romance Languages .....	94
German .....	85	Scandinavian .....	36
Greek .....	2	Sociology .....	57
History .....	64	Radio .....	3
Hygiene .....	2,056	Special .....	5
Preparatory .....	217	Interior Decorating .....	13

ACTIVITY OF STUDENTS IN REGULAR COURSES

Active during year:		Inactive during year:	
Four or more reports.....	1,119	Expired or cancelled without report .....	415
Less than four reports.....	454	Unexpired, no reports.....	500
	<hr/>		<hr/>
	1,573		915

COMPARISON OF ANNUAL REPORTS FOR FIVE YEARS

	1920-1925				
	1920-21	1921-22	1922-23	1923-24	1924-25
Registrations in force at first of fiscal year	636	869	843	1,058	1,102
Registrations during year.....	809	888	1,149	1,302	1,386
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total registrations in force during year	1,445	1,757	1,992	2,360	2,488*
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Completions .....	226	396	445	582	684
Expirations .....	386	614	562	688	701
Cancellations .....	21	15	111	204	133
Reinstatements .....	57	111	194	216	225
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Registrations in force at end of fiscal year .....	869	843	1,058	1,102	1,195†
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Enrolment of individuals as distinguished from registrations for courses.....	731	779	1,012	1,146	1,235‡
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Number of courses offered.....	150	147	187	188	192
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Number of instructors .....	51	51	51	54	52

\* In regular courses only. To obtain grand total add 3,306 special registrations.  
 † In regular courses only. To obtain grand total add 1,014 special registrations.  
 ‡ Regular students only. To obtain grand total add 2,056 special students.

## DEPARTMENT OF COMMUNITY SERVICE

1924-25

## LYCEUM BRANCH

Number of different attractions used .....	23
Number of towns having courses.....	136
Number of engagements filled .....	351
Total attendance at entertainments and lectures.....	107,500
Total receipts from courses.....	\$19,199.35
Amount outstanding .....	\$20.00

Amount outstanding is as follows:

Town	Attraction	Amount
Federal Dam	Warren Colston Company.....	\$20.00
		<u>\$20.00</u>

## LECTURE SERVICE

Number of faculty people available for lectures.....	30
Number of communities served by single lectures.....	12
Total number of engagements filled.....	19
Total attendance at lectures.....	4,500
Total receipts from lectures .....	\$355.00

## COMMENCEMENT ENGAGEMENTS

Number of people available for commencement addresses.....	31
Number of communities served by addresses.....	48
Number of persons actually filling engagements.....	25

## COMPARATIVE STATEMENTS

## Courses

	1915-16	1916-17	1917-18	1918-19	1919-20
Number of towns having courses .....	110	136	180	176	178
Number of engagements filled .....	541	654	905	780	837
Total receipts from courses	\$29,145.00	\$34,692.00	\$38,814.50	\$33,087.50	\$43,692.20
	1920-21	1921-22	1922-23	1923-24	1924-25
Number of towns having courses .....	208	190	146	149	136
Number of engagements filled .....	909	782	545	568	351
Total receipts from courses	\$48,359.55	\$47,028.75	\$32,978.09	\$29,392.94	\$19,199.35

## LECTURES—SINGLE AND IN SERIES

	1915-16	1916-17	1917-18	1918-19	1919-20
Number of towns having lectures .....	42	14	12	16	48
Number of engagements filled .....	59	27	14	21	74
Total receipts from lectures	\$1,785.00	\$560.00	\$280.00	\$275.00	\$880.00
	1920-21	1921-22	1922-23	1923-24	1924-25
Number of towns having lectures .....	25	14	32	16	12
Number of engagements filled .....	51	31	57	38	19
Total receipts from lectures	\$330.00	\$430.00	\$1,070.00	\$430.00	\$355.00

DRAMA BRANCH

1924-25

Total number of plays in the library.....	1,775
Number of requests filled .....	796
Number of copies of plays sent out.....	4,247
Number of plays selected for use.....	178
Number of new plays added to the library.....	158
Number of plays lost during the year.....	6
Number of plays discarded .....	0

COMPARATIVE STATEMENT

	1922-23	1923-24	1924-25
Number of plays.....	1,301	1,427	1,775
Requests filled .....	379	713	796
Copies mailed .....	1,540	4,194	4,247
Selections made .....	91	212	178

VISUAL INSTRUCTION REPORT

1924-25

IN MINNESOTA

Number of communities served .....	217
Number of film programs furnished.....	623
Number of film programs shown (not number of reels).....	1,100
Attendance at showing of films.....	187,860
Service fees received for films.....	\$778.97
Rental fees received for films.....	1,346.59
Total receipts of rentals and fees.....	\$2,125.56
Number of reels recalled from service because of poor physical condition .....	15
Number of reels returned to owners.....	21
Number of reels lost .....	0

OUTSIDE MINNESOTA

Number of states served .....	7
Number of communities served .....	22
Number of film programs sent out.....	46
Service fees from films.....	\$32.80
Rental fees from films .....	\$184.17
Total receipts of rentals and fees.....	\$216.97

Outstanding accounts amount to \$255.69 which we expect to receive during the month of July.

VISUAL INSTRUCTION SERVICE

COMPARATIVE STATEMENT

IN MINNESOTA

	1922-23	1923-24	1924-25
Number of communities served .....	268	235	217
Number of film and slide programs furnished .....	1,175	685	623
Attendance at film and slide programs..	183,313	214,371	187,860
Gross receipts .....	\$2,190.25	\$2,005.09	\$2,125.56

OUTSIDE OF MINNESOTA

	1922-23	1923-24	1924-25
Number of communities served .....	15	22	22
Number of film and slide programs furnished .....	56	54	46
Gross receipts .....	\$88.00	\$253.37	\$216.97

## THE SUMMER SESSION

*To the President of the University:*

SIR: I herewith submit the report of the Summer Session of 1925.

*Policies of administration.*—The present status of the Summer Session is such as to warrant an increasing measure of continuity from the regular year to the Summer Session in all aspects of administration. Accordingly, the policy has been adopted, and has been in operation during the past summer, of having registration follow out essentially the same plans as are used throughout the other quarters of the year. Students enroll in some college and meet the regulations which prevail in that college with reference to curriculum. There are provisions in most colleges of the University for students to register as special students and these regulations meet the situation for summer session students. In fact, altho we have had provision whereby students could register in the Summer Session without meeting the requirements of any one of the colleges or schools, there has not been a case during the last two Summer Sessions where the desire of the student could not be met by his enrolment under the regulations governing one of the colleges. Continuity prevails also with reference to standards of work, excess registration, deficiencies of scholarship, and the like. The same committees handle these problems in the summer as handle similar problems in the regular year.

The place where continuity seems most difficult to secure is in the matter of finances. The university staff feels itself engaged for the academic year, and teaching which they do in the summer is done for extra remuneration. It would be very desirable from many points of view to have certain members of the staff employed on a nine months basis, who would teach during the summer and two other quarters of the year, having their vacation periods during the quarter when the teaching load is lightest in the department. To accomplish this purpose will require the budget of the University to be made out on the annual basis, the needs of each of the quarters, including the summer, being considered in that budget. It is hoped that such a scheme can be operated for a number of the colleges in the near future.

*Attendance.*—During the first term there were registered 1,745 men and 1,843 women, a total of 3,588; during the second term, 957 men and 447 women, a total of 1,404. This makes a total of 4,992 different registrations. But of this number there were 981 students who continued through both terms, while there were 423 new students who came for the second term. This leaves a net enrolment of 4,011 different students. In addition there were 177 men and 10 women, a total of 187, graduate members of the Mayo Foundation at Rochester; and 157 women, members of the Practical Training Course for Nurses, in service at the University Hospital. Thus a total of 4,355 students were served by the summer work of the University.



Some comparisons between the attendance figures for 1924 and those for 1925 may be had from the following table:

COMPARATIVE ATTENDANCE

	1924	1925	Gain	Loss
First term registration.....	3,422	3,588	166	....
Second term registration.....	1,356	1,404	48	....
Total registrations.....	4,778	4,992	214	....
Students attending both terms.....	1,069	981	....	88
New students, second term.....	287	423	136	....
Total different students.....	3,709	4,011	302	....
Members Mayo Foundation.....	166	187	21	....
Nurses in hospital service.....	....	157	....	....
Total students served.....	....	4,355	....	....

NOTE.—The attendance figures for 1924 are slightly different from those used in the president's report for 1924, due to corrections made since the publication of the report.

These figures indicate that the Summer Session continues to make a small but steady gain in membership, significant of healthy and stable growth. There are no especially potent causes for large increases in summer attendance operative at this time, and so long as this condition prevails there can be little expectation of a large growth at the University of Minnesota.

Of the enrolment for the first term 2,071 (57.7 per cent) were previously matriculated students, in the second term, 956 (68 per cent)—a total of 3,027, or 60.6 per cent of the total number of registrations. Compared with 1924 this shows a large increase in the first term, practically no change in the second term, leaving about 8 per cent gain for the entire session—the corresponding percentages in 1924 being 46.9, 68.3, and 52.9.

Of these previously matriculated students there were registered for some deficiencies, in the first term, 243 (6.8 per cent), in the second term, 162 (11.5 per cent)—a total of 405, or 8.1 per cent of the total number of registrations. This shows a considerable falling off from the figures of 1924, when the percentages were 7.4, 15.9, 9.8. The largest decrease, it will be noted, is in the second term, a fact which correlates well with the loss in the number of students who carried the work of both terms.

The great gain, therefore, is in the number of previously matriculated students who registered for new work; in the first term, 1,828 (50.9 per cent), in the second, 794 (56.5 per cent)—a total of 2,622 for the two terms, or 52.5 per cent of the total registration. The corresponding percentages for 1924 were 39.5, 52.4, and 43.1.

Again attention must be called to the very large increase in enrolment in the Graduate School. In the first term there were 593 (16.5 per cent) registrations, in the second, 151 (10.7 per cent)—a total for the session of 744, or 14.9 per cent of the total registration. This is a gain of about one third, the corresponding figures for 1924 being: first term, 460 (13.4 per cent), second term, 99 (7.3 per cent)—a total of 559, or 11.6 per cent of the total registration.

## ENROLMENT AND COURSE REGISTRATION BY COLLEGES

College	Enrolments	Course Registration	Student Credit Hours
Science, Literature, and the Arts.....	1,098	4,100	13,391
Engineering and Architecture.....	284	523	1,862
Agriculture, Forestry, and Home Economics....	233	603	1,614
Law .....	69	212	424
Medicine .....	472	1,164*	3,713
		2,940†	50,366
Nursing .....	72‡	128	8
Dentistry .....	221	133	745½
Dental Nursing .....	9	0	0
Mines .....	8	0	0
Pharmacy .....	22	0	0
War Specials .....	83	0	0
Graduate .....	744	0	0
Chemistry .....	65	363	1,310
Education .....	1,560	3,574	9,446
Business .....	62	403	1,249
Physical Education .....	0	481	521

\* Laboratory courses on credit basis.

† Clinical courses on clock hour basis.

‡ Does not include 157 nurses in practical service in hospital.

This table shows the extent to which the various colleges go in their summer offerings; and that in only two of them is no work given. It also shows the disparity between the student enrolment in a college and the registrations for work in that college.

*Finance.*—The receipts from student fees and recreation admissions, applying to the summer session budget, were as follows:

Student fees, first term.....	\$85,430.00	
Student fees, second term.....	31,091.25	
Medical School, summer quarter.....	7,630.00	
		\$124,151.25
Total fees .....		
Refund of fees, first term.....	\$1,237.75	
Second term .....	554.00	
Medical quarter .....	60.00	
		1,851.75
Total refunds .....		
Net receipts, from fees.....	\$122,299.50	
Receipts from recreational activities.....	739.00	
Receipts from laboratory fees.....	2,671.75	
		\$125,710.25
Total receipts .....		

Expenditures so far charged against the various budget items, and representing approximately the total cost of the session are as follows:

Instructors' salaries, first term.....	\$71,194.61
Instructors' salaries, second term.....	26,306.36
Administration .....	3,218.60
Printing and general expense.....	4,844.34
Recreational expense .....	3,765.78
Departmental supplies .....	3,669.40
Minnesota Union .....	1,313.00
Shevlin Hall .....	1,112.00
Health Service .....	4,850.00
Post-office .....	970.00
Total .....	\$121,244.09

A balance of \$4,466.16 is thus contributed toward the general expense of the University.

*Recreation.*—The recreational program offered to summer students, in lieu of the usual extra-curricular activities of student life, has again furnished a rich and easily available source of inspiration and enjoyment. Its offerings have been many and varied. A total of 38 lectures was given, 18 of them by that number of members of the summer staff, and 20 of them by 11 men and women from off the campus. Five of these were general convocations, one being the commencement exercises for students completing their work for degrees at the close of the first term. Recitals to the number of 20 were given, 11 of them musical, 4 dramatic, and 5 of a literary character.

The extent of dramatic offerings was increased this year, due to the fact that the Masquers, student dramatic society, for the first time continued to function during the summer. Four performances were given by this society, as well as 2 by play-production classes in which members of the society assumed directive responsibilities. In addition there were 2 performances by the Studio Players, of Minneapolis, making a series of 8 in all. Nineteen showings of motion pictures, with appropriate stage settings and music, gave satisfaction to large audiences.

There were 8 social gatherings, largely given over to dancing, held during the summer, one of them being, as has been the custom for several years, held on the Farm campus. Fifteen personally conducted excursions have taken exceptionally large parties of students to visit points of interest in the Twin Cities.

The program has been financed by the customary allotment of one dollar per student, from the regular summer session fee, amounting this year to approximately \$4,950, with the addition of \$739 received from admission to certain recreational activities; a total of \$5,689. The total expense so far has been, for administration, \$1,510, for services and other expenses necessary, \$3,765.78—a total of \$5,275.78. Items of expense which have not yet been paid are minor, and the total expense will be well within the budget allowance.

Respectfully submitted,

F. J. KELLY, *Director*

## DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

*To the President of the University:*

SIR: I submit herewith a report for the Department of Physical Education and Athletics for the academic year 1924-25.

### REQUIRED PHYSICAL EDUCATION

The required work in physical education is still handicapped a good deal by classes which are much too large for securing the best results in teaching and because these courses do not carry credit. Considerable relief will no doubt come from the added facilities under the stadium, transferring the varsity basket-ball practices and games to the Kenwood Armory and added outdoor playing space adjoining Northrop Field.

Mr. Keller, Mr. Taylor, and Mr. Iverson were in charge of the work, aided by students in the professional training course. The fall quarter work consisted of organized squad games played on the parade grounds and Northrop Field. The winter quarter work was largely indoors and consisted of calisthenics, apparatus work, and gymnastic games. The spring quarter program, conducted entirely out of doors, comprised practice and actual participation in the athletic tests of the Sigma Delta Psi honorary fraternity. This work proved to be both interesting and beneficial.

Any man who received a physical examination of A-1 and a posture grade of A or B, was allowed to substitute membership on a class athletic squad for his regular physical education work. Many men took advantage of this ruling and participated with freshman teams.

A new system of grading was inaugurated at the beginning of the winter quarter. No absences were allowed. All cuts excused or unexcused were made up. Excused absences were made up with one period and unexcused with two. This system proved to be the most successful yet tried. A number of incompletes were given, but a large percentage of them was made up.

The distribution of grades for the year is as follows:

Enrolled	A	B	C	D	F	I	Cancelled
2,651	129	617	859	232	267	161	386
Percentage	4.8	23.3	32.4	8.8	10.1	6.1	14.5

The percentage of failures and cancellations is much too large, but is no doubt due to the fact that the course does not carry credit and therefore is not taken seriously.

Five hundred seventy-eight (578) men were registered in required orthopedic physical education work during the year. These were divided as follows: 236 in the fall quarter; 176 during the winter quarter, and 146 in the spring. Classes were conducted largely out of doors during the fall; chiefly indoors during the winter and entirely out of doors during

spring. Fresh from a summer study of orthopedic physical education. Mr. Iverson placed this work on the best basis we have had in recent years at Minnesota. Dr. Cooke gave such medical assistance to Mr. Iverson as was necessary. A schemetograph was purchased by the department and used in making posture graphs of all entering students as a part of their physical examination. These records are valuable for determining the degree of normality of each student's posture and for stimulating and measuring improvement. Mr. Iverson prescribed home exercises for each individual and in addition gave class instruction in body building activities. Some athletic games were introduced, adding a much needed touch of play life to these handicapped students. Three advanced leaders were assigned to these classes as practice teaching assistants. More practice teachers could well be employed in this work if they were available.

The following table gives a classification according to handicaps and the distribution by quarters:

Defects	Fall Quarter	Winter Quarter	Spring Quarter
Feet .....	59	46	38
Ankles, knees, and hips.....	21	17	28
Legs .....	13	7	..
Pelvis .....	3	2	..
Spine .....	5	4	10
Shoulders, elbows, arms, and hands.....	21	12	13
Hearts .....	32	29	20
Hernia .....	7	6	5
Impaired vision .....	8	2	..
Ears .....	3	2	2
Varicose veins .....	2	2	..
Lungs .....	5	2	2
Underdeveloped .....	22	4	8
Recent operation .....	2	2	3
Eczema .....	2	2	..
Kidneys .....	7	2	..
Infantile paralysis .....	3	6	..
Kyphosis .....	3	..	..
Scoliosis .....	2	3	..
Chronic colitis .....	1	..	..
Nose bleed .....	1	1	..
Hyperthyroid .....	2	..	..
Dwarf .....	1	2	3
Bronchitis .....	2	2	..
High blood pressure .....	1	..	4
Chronic urethritis .....	1	2	..
Stomach .....	2	1	2
Chronic tonsilitis .....	..	1	..
Pleurisy .....	..	2	..
Missing limbs .....	..	2	..
Ulcer .....	..	..	1
Lumbago .....	..	3	..
Class D .....	5	..	..
Unclassified .....	5	10	7
	236	176	146

Most of the personal hygiene instruction is conducted by the Department of Physical Education for Men. One course each quarter was given also by the Department of Preventive Medicine and Public Health. For our department the personal hygiene instruction is given largely under the supervision of Dr. Cooke. Dr. L. H. Cady, of the Health Service, assisted Dr. Cooke in some of this work. We believe an improvement was made this year in distributing this work over the college year, thereby greatly reducing the size of classes. Approximately one third of the total number enrolled were given instruction in each quarter. This work is required of the freshmen in the following colleges:

College of Science, Literature, and the Arts  
College of Engineering and Architecture  
College of Agriculture, Forestry, and Home Economics  
College of Education  
College of Pharmacy

A total of 637 students received instruction in swimming during the year. Of this number 307 were beginners and only 8 of the beginners failed to pass the elementary swimming test at the end of this period of instruction. For advanced work in swimming 248 were registered. Approximately 60,000 swims were supervised by Mr. Thorpe and Mr. Boyce during the regular college year.

#### INTRAMURAL ATHLETICS

The past year in intramural athletics has been marked with many good qualities. This constituted the second year since intramural athletics was placed under the supervision of a full time director and the first under our enlarged budget. This made it possible to provide Mr. Smith, who is in charge of this work, with an intramural field man and officials for intramural games. Detailed records were kept which are designed to help in the standardization of the intramural program, improve operation from year to year, and form a basis for comparisons between different years and institutions. It is, however, as yet uncertain whether such extensive detailed records as we are now keeping will be of sufficient value to warrant the time and expense of their collection. The history of intramural athletics in educational institutions is comparatively short, making accurate conclusions on this point difficult at present. The intramural field man, among other duties, looked after the maintenance of the tennis courts in the fall, and the construction and maintenance of the hockey rinks in the winter. In general, a number of sports were marked by a greater number of participants compared with previous years and some new sports were introduced, becoming popular and desirable intramural activities.

A notable departure this year was the introduction of a competitive point system of participation. The object of this system was to enlist a wider interest in intramural athletics by the male student body of the University. Points were given chiefly for being represented in each sport, and additional points for winning contests. Point values were also given to organizations which were represented on varsity teams, thus seeking to

avoid undesirable diversion of candidates from intercollegiate teams. The installation of this system at Minneapolis is in line with similar procedure at other conference universities. An essential part of the participation point system is that a fitting trophy be presented to the winner. It has been recommended that this trophy be held one year by the organization winning it in any given year and that it become the permanent property of the organization that first wins it four times; and that in case no given organization wins it four times in a period of ten years, it shall become the permanent property of the organization which has won it the largest number of times. The introduction of this plan in intramural athletics cannot as yet be considered entirely successful. While the prospect of a trophy undoubtedly proved stimulating to wider participation, student objections to the plan have been raised in the form of (1) declaration that it was too burdensome, thereby encouraging forfeits and postponements, and (2) that the game has been sacrificed for participation points as a result of the scale of scoring values. Then, too, there has been considerable difference of opinion as to the kind and value of the participation trophy. Several conference institutions are reported to have intramural cups costing \$400 and upwards each. One of these trophies is said to be insured for \$500 or more. At present it is difficult to see, in a state institution like Minnesota, the propriety of putting more money in a general participation trophy than comprised the entire intramural budget two or three years ago. This is especially true, because probably for years to come we still will continue to have very distressing needs in intramural athletics such as the necessity for securing more equipment and securing and improving much more needed play space. Altho one year of this plan has been carried out and the winner determined, the trophy has not as yet been secured, owing to differences of judgment regarding the above named conditions. The plan in general, however, has some very desirable features and, with revision of scoring values and the selection of a fitting trophy, is undoubtedly deserving of thoro tryout and study. Possibly it might be wiser to secure a more moderately priced trophy with perhaps a shorter period of competition to determine its permanent possession until the desirability of this system can be more accurately ascertained.

Another important step in intramural athletics was the taking over of the administration and maintenance of the university tennis courts by the department. The wisdom of this step under present conditions is still open to question. It was perfectly clear that the tennis courts were not satisfactorily maintained or operated before this step. The question is largely one of insufficient funds. The Department of Buildings and Grounds undoubtedly did as well as possible with the funds available as pointed out in other communications. Our department took the courts over with the distinct expectation and some assurance that we would be permitted to install a system whereby more funds would be made available for the care of the courts by charging players a small laboratory fee for the value enjoyed. Such a system was fully described in my letter of April 25, 1925, and it is in harmony with the procedure at a

number of other colleges and universities, some of which are state universities, and has been widely recommended at Minnesota by faculty and student tennis players as well.

With the expectation that more funds would be made available for tennis and in an effort to improve the unsatisfactory situation as soon as possible, the department purchased two dozen tennis nets. Altho this step has provided greater tennis facilities at Minnesota at less expense to the players, it is clear that such procedure cannot be continued or extended with the funds at present available. Tennis is one of the games that the department is especially desirous of fostering on a larger scale, because young men and young women may continue it as a valuable outdoor physical education activity for many years after leaving college. A tennis net is not a proper investment for an individual, for a single net may serve dozens of students during a day while the purchase of a net by one or two individuals is poor economy and even borders on extravagance and waste. Racquets, because of varying weights and styles, and balls, because of their rapid depreciation, should be provided by the players, themselves. Tennis nets should be provided by the University and should be placed on the courts whenever the playing surface is fit for playing and should be cared for by some common agency such as the Department of Physical Education and Athletics.

It will be recalled that during the year the following committee on intramural sports was appointed: Dr. J. Anna Norris and Miss Kissock, of the Department of Physical Education for Women; Dr. H. S. Diehl, of the Health Service; and W. R. Smith and F. W. Luehring, of this department. This committee met on January 29 and organized, selecting Mr. Luehring as its chairman and Dr. Norris as its secretary. Three main lines of activity were made out for the committee, (1) the determination of the scope of joint activities, (2) budget, and (3) personnel. Tennis and skating were recognized as joint activities at the present time. Besides the skating rink on Northrop Field, a skating rink was built adjoining the women's gymnasium. The construction and maintenance of both rinks were financed from the funds of the intramural budget for men. For the coming year, the Department of Physical Education for Women is planning to assist in financing these joint activities from their funds. It was decided that this committee should have at least one meeting per quarter or meet at the call of the chairman or the secretary to plan activities for the following quarter. A subcommittee was also appointed, consisting of Miss Kissock and Mr. Smith, to supervise the operation of joint activities. This committee was requested to prepare a statement concerning the expenses of upkeep of the tennis courts and skating rinks.

The following statistical statement prepared by Mr. Smith gives a summarized view of the year's work:

Eighteen different athletic sports were fostered by the Intramural Department during the past year. In the fall quarter the tournaments, the number participating, and the all-university winners were:



Sport	Number	Winner
Bowling	182	Alpha Rho Chi
Volley-ball	145	Theta Chi
Football	200	No championship awarded
Tennis	171	
All-university singles		Abbot J. Goldstein
Doubles		Delta Tau Delta
Golf	147	
All-university		Arthur H. Snow
Faculty		Major Montgomery
Fraternity		Delta Upsilon
Cross country (not including varsity)	162	Joe Wexman
Fencing	33	H. V. Hawkins
Handball	32	H. C. Murphy
Sigma Delta Psi	53	Theodore Hyde
Faculty sport	50	
Total	1,175	

In the winter quarter the tournaments, the number participating, and the all-university winners were:

Basket-ball	914	Psi Omega
Hockey	221	Delta Chi
Handball	70	Alpha Sigma Phi
Free throw	328	Delta Kappa Epsilon
Track	300	
Academic		Psi Upsilon
Professional		Alpha Gamma Rho
Swimming	145	
Academic		Phi Gamma Delta
Professional		Psi Omega
Military boxing	60	
115-pound class		John Howland
125-pound class		Francisco Gonzales
135-pound class		Julius Dodge
145-pound class		Morris Greenberg
160-pound class		Harold Blinkenberg
175-pound class		Thwing
All-university boxing	84	
Bantam weight—115		Carpenter
Featherweight—125		Pixler
Lightweight—135		Rosenthal
Welterweight—145		Greenberg
Middleweight—161		Joe Gordon
Lighthheavy weight—175		Kopplin
Heavyweight—175		Cooper
Western Conference bowling	57	Alpha Rho Chi
Faculty sports	60	
Total	2,239	

In the spring quarter the tournaments, the numbers participating, and the all-university winners were:

Sport	Number	Winner
Baseball .....	473	Engineers
Diamond ball .....	881	Freshman Engineers
Track .....	302	
Academic .....		Psi Upsilon
Professional .....		Phi Chi
Tennis .....	321	
All-university open .....		Larry John
Golf .....	185	
All-university open .....		A. L. Christensen
Engineering .....		A. L. Christensen
Fraternity .....		Phi Kappa Psi
Horseshoes .....	95	
Handball .....	24	
Sigma Delta Psi .....	487	(Geo. Forseth) (Max Moody)
—		
Total .....	2,768	

These figures do not represent the total number who took part in the various sports but only those in tournament play. In tennis for example there are several hundred who use our courts but a very small percentage of these compete in tournament play. The same is usually true in other sports.

The outlook for intramural athletics for the coming year is distinctly encouraging. Improvements to an amount of \$100,000 which have been made in the stadium will give intramural athletics a big impetus forward. The 12 handball courts, 8 squash racquet courts, and wrestling and boxing rooms should bring rich returns in physical education values for students and faculty. At the same time this project is meeting with widespread admiration as a noteworthy example of the utilization of the space under the stadium for physical education purposes. Such economy of space is particularly desirable at Minnesota where severity of winter climate and urban conditions increase the value of indoor space which is near at hand.

### INTERCOLLEGIATE ATHLETICS

In the following statement on intercollegiate athletics, it is impossible to give a detailed analysis of the activities conducted during the year. Attention is called, however, to the leading events, policies, achievements, and needs characterizing the college year. Each member of the teaching staff has been requested to file in this office a detailed quarterly report of the activities and teaching in which he is in charge. These more complete reports are available, if desired, for a more detailed study of any phase of intercollegiate athletics.

The division of intercollegiate athletics was full of difficult situations this year. The construction of the new memorial stadium and adjacent athletic field, track, etc., called for many exceptional demands on the Senate Committee on Intercollegiate Athletics and on our department staff. This

new construction work of stadium, team dressing rooms, fields, etc., also seriously disturbed our operating budget for the year. As a result of this, nearly \$12,000 was expended out of our operating budget for such items as ticket booths, maintenance of grounds around the stadium, provision for closing ramps, numbering the seats and rows of the stadium, goal posts, bill for water used in the construction of the stadium, and the dedication program. This was explained in my letter of December 18, 1924. Much relief was given when a refund was authorized for a total of \$4,992. There still remained, however, too many unusual items to be absorbed by our operating expenses of the year 1924-25. As a result, we were obliged to reduce our squads in all sports following the football season and seriously cut down supplies and equipment with all budgets depleted before the end of the year. This increased the cost of athletic instruction per student and proved extremely distressing and discouraging to the members of the teaching staff in our educational program. It is, of course, recognized that last year was a very unusual year in this respect and that the coming year's finances should be free from such disturbing influences.

Several staff changes which had to be made during the preceding year and summer made administrative duties more difficult and called for new adaptations and the working out of new staff relationships. Added to this was the general unrest which prevailed for two or three months following the football season. To offset this combination of disturbing conditions, alleviating influences came forth in the form of the forceful position which the president and members of the administrative committee took in publicly establishing at Minnesota the principle of university control of intercollegiate athletics as opposed to outside influences, the special reimbursement to our budget above referred to, and the stimulation which came from the construction and occupation of the new stadium and its various accessories.

*Football.*—The football season last fall was quite unusual. Schedule difficulties arising chiefly from our geographical location made it necessary to prepare a schedule which was heavier than desirable. The human material comprising the candidates for the varsity team was with few exceptions not of distinguished caliber. Besides this, the public interest was rather accentuated due to the coming of the new stadium. The situation as a whole showed very clearly that as yet the typical American audience witnessing college athletic contests has failed to see and appreciate that there are other larger values inherent in educational athletics besides winning. The season demonstrates clearly that good training, fine sportsmanship, faithful rules observance, and steadfast determination in the face of adverse circumstances are still largely unnoticed altho their value in the process of athletic education is inestimably greater than the mere incident of winning the game. It is desirable to coach the teams to try to win, but there is more need for educating people generally in the larger values of an educational athletic program.

The football team made a splendid showing in the Haskell and Illinois games. For most of the other games, the public criticism of the team

and coaches undoubtedly undermined the team's confidence and reduced the playing efficiency. Certain individuals were at once the team's greatest strength and its greatest weakness. The dedication game which was played in the Memorial Stadium with the University of Illinois was one of the finest all around exhibitions of football that one might wish to see. Besides its fitness for the occasion, it proved to be a game which succeeding generations of Minnesotans will love to recall. In view of the coming year, it is noteworthy that the freshman team was exceptionally good. It included a larger squad than usual and a wealth of material in nearly every position such as has not been seen at Minnesota for several years. In addition to this, the freshman squad show higher attainments in scholarship over the preceding year.

*Basket-ball.*—Basket-ball during the past year was marked by three outstanding events. The most prominent change was the voluntary resignation of Dr. Louis J. Cooke as basket-ball coach. For many years Dr. Cooke has been a leading figure in teaching basket-ball in the United States. He is clearly the father of the game at Minnesota, having introduced the game here as well as in the entire middle Northwest. For many years he has been a member of the National Basket-Ball Rules Committee which formulated the playing rules for schools and colleges of the United States. Dr. Cooke has been also a splendid teacher of the game and a good varsity coach whose record of faithful, thoro, sportsmanlike service and percentage of victories won should be a source of pride to Minnesota men and women. At his recommendation, Dr. Cooke was succeeded as basket-ball coach by Harold T. Taylor, instructor in physical education of our department, who two years ago had the distinction of coaching the Aurora, Minnesota, high school team which won the state high school championship, and who a year ago was freshman basket-ball coach, chief scout, and assistant to Dr. Cooke.

The next most important event was the playing of a number of our varsity games at the Kenwood Armory instead of the University Armory. For years, the inadequacy of the University Armory, particularly in seating capacity, has been a matter of common knowledge. This year, therefore, arrangements were made to use the Kenwood Armory in Minneapolis for several of the conference games with the result that those who came to see the games were more adequately seated and the playing conditions made more nearly in accord with those of most other conference institutions. Another difficult experience at the University Armory is the fact that during practically the entire winter quarter, the building is used daily, except Sunday, from eight o'clock in the morning until midnight, making it necessary not only to observe a very rigid schedule of the use of the armory, but also to reduce to the minimum, the time allowance of the various interests which have been accommodated. The cost of transporting the team to and from practices, rental of armory and bleachers, was offset by making the armory more available for intramural activities and by increased receipts. Thus far, this arrangement has proved sufficiently successful to warrant the Senate Committee on Intercollegiate Athletics

recommending that for the coming year all home basket-ball games, seven in number, be played at the Kenwood Armory. Granted that these arrangements can be carried out, it will make more possible a single student faculty ticket for all athletic events, thereby also reducing duplication of tickets and ticket sales.

The third leading event of the year in basket-ball was the marked improvement shown by the varsity over the more recent preceding years. In his first year, Mr. Taylor has demonstrated good teaching and coaching ability. Altho the team finished its conference games with a percentage of 500, a number of achievements distinguished the season. For the first time in years, Minnesota defeated Wisconsin twice in the annual home and home series. The Minnesota team had the best defensive record in the conference, having a total of only 87 field goals scored against it by conference opponents. The team was also distinguished by its sportsman-like play and clean fighting type of game.

Mr. Campbell Dickson, one of our assistant coaches, was head scout in basket-ball and gave particular attention to the training of the reserves, a group which heretofore has not had sufficient attention. Mr. Keller succeeded Mr. Taylor as freshman basket-ball coach. The freshman season was characterized by the development of a high grade squad of basket-ball men. One hundred seventy-eight candidates reported for the team. These were coached in the fundamentals of the game and were gradually graded according to ability, with the result that forty-eight of the leading candidates comprised the first squad. This squad was then organized into a series of teams which played in the university intramural basket-ball league, one of the teams losing out in the university finals by a single point. On the whole, it is clear that the freshman basket-ball instruction has been of a high order and that as a result a larger squad of good material than usual will be available for Coach Taylor for the coming year.

*Track.*—When the 1924 track season closed a year ago, there was graduated from the University nearly all of our best men in this sport. It was evident that aside from some promising substitutes, an entirely new team would have to be developed. Added to this was the difficulty of a change in coaches. Mr. Metcalf, who had coached the varsity team for the two preceding years and who had resigned to accept the directorship at Iowa State College, was succeeded by Coach Sherman W. Finger, a former track man at Yankton College and the University of Chicago, who had done track coaching as a part of his teaching at Cornell College, Mount Vernon, Iowa. After much delay, due to our depleted finances, a part of the space underneath the stadium was partitioned off and partially heated. This made it possible to do more satisfactory track work in the winter than Minnesota facilities had heretofore provided. As a result the team, largely made up of inexperienced material, showed gradual and steady improvement, so that by the time the outdoor season arrived, we had one of the best teams in the conference for dual meet competition. The most notable achievements were the overwhelming victory over Chicago, the holding of Iowa and Ohio to low scores, and the exceptional

performances of several members of the team. Mr. Finger deserves much credit for his quick analysis of the situation, his inspiring teaching methods with a large number of candidates, and the fine results obtained in the face of this difficult situation.

Mr. Iverson and Mr. Dickson were assistant coaches in track, the former giving his attention to the coaching of the freshman team following the hockey season. A fair showing was made with the freshman material, due to the fact that our facilities were still limited and that in order to make a better showing someone must be placed in charge of the freshman squad earlier in the season. It is hoped that arrangements can be made to improve this situation for the coming season.

*Swimming.*—Coach Niels Thorpe was again in charge of varsity and freshman swimming teams. This team continues to have the record of all varsity sports in scholarship, having the fewest ineligible candidates, either during or following the season, and also having the largest number of scholastic honor men. The varsity team altho not quite up to the standard of some of its immediate predecessors, made a splendid showing in dual meets, losing but one meet, and that to an exceptionally fine Northwestern University team and placing fourth in the conference. Two members of the team, John Faricy, A25, and James Hill, Ag27, brought distinction to Minnesota by establishing records in their respective events. Mr. Faricy, who has never been defeated in a college race, holds the national collegiate record of 2 minutes, 37  $\frac{3}{5}$  seconds for the 200-yard breaststroke, as well as the world's record of 1 minute 7  $\frac{1}{5}$  seconds for the 100-yard distance in the same event. Mr. Hill, in his first year on the varsity team established a new record of 1 minute 49  $\frac{2}{5}$  seconds in the 100-yard backstroke in the conference, breaking a record which had stood since March, 1916. Mr. Faricy finished first in his event in the National Collegiate meet, and Mr. Hill, a close second.

The freshman team is pronounced by Coach Thorpe the best that Minnesota has ever had. It comprises a large squad of material which defeated the varsity in one of their dual meets and lost to the varsity by a very narrow margin in another. Practically all of the men made good records in scholarship and a number of this group will undoubtedly represent Minnesota on the varsity during the coming season.

*Hockey.*—Mr. Iverson was again in charge of our hockey instruction for varsity, freshman, and intramural hockey. We were fortunate this year in being able to arrange some practices, and play all of our home games at the new Minneapolis Skating Arena, because of the reasonable arrangements which were granted us by the management of the Minneapolis Arena. Mr. Iverson, who has finished his second year as hockey coach at Minnesota, last year won the middlewest college championship, losing but one out of a series of eight college games and this year won second place, losing to Michigan in a close series of games. Our varsity material was not up to the standard of last year, altho Mr. Iverson deserves praise for the progress and improvement of the individual candidates and the general good showing of the team. A good freshman team was also

developed by him which gives promise of a good varsity team for the coming year.

*Cross country.*—For the past two years the instruction in cross country has been in charge of Mr. Iverson. Altho we have now and then had individuals who have attained distinction, the team as a whole has never been considered a strong one in the Intercollegiate Conference. Because of the fundamental physical education value of cross country running and the limited cost of equipment, we have tried to bring these benefits to large numbers of students. Accordingly, Mr. Iverson has instituted a graded system of instruction, increasing in distance and difficulty according to the ability and progress of the candidates. As a result during the past two years, cross country has been marked by a large squad of about 250 men annually. During the past season there were about 40 candidates for the varsity team, the balance being freshmen and intramural candidates. Altho the season cannot be considered successful from the point of view of the showing made by our varsity candidates in dual meets or in the conference race, there is no doubt but that a large number of university men have been greatly benefited by this wholesome form of outdoor activity and that a nucleus of fair ability has been developed among those who should make a favorable showing in intercollegiate competition in the ensuing season.

*Baseball.*—This year marked the restoration of baseball as a regular intercollegiate sport. It will be recalled that this game had previously been adopted on a three-year trial basis, following an absence of eight years. A large squad of candidates reported for the team in the winter quarter. Altho, due to our limited finances, the men were obliged personally to supply their own playing shoes, to do without considerable desirable equipment, and to contend with very limited training facilities, the team and coach faced these discouraging odds with a fine sportsman-like spirit. A southern training trip which was taken for the second successive year proved more satisfactory than that of a year ago in: (1) the success of Coach Watrous' ingenious tests for selecting the men comprising the squad for this trip, only one of the number failing later to make the varsity; (2) the wholesome team spirit and team play developed; and (3) the good number of victories won. The team also made a fine showing in its later conference competition, finishing with a percentage of 500 and having notable victories over Wisconsin, Michigan, Iowa, Northwestern, and Notre Dame.

Mr. Keller assisted Coach Watrous with the varsity in the early part of the season and later in a short outdoor season gave instruction to freshman candidates. A fair amount of good material was discovered and given advancement in baseball fundamentals.

*Gymnastics.*—Dr. William K. Foster was again in charge of the gymnastic team. The team made the distinguished record of winning the intercollegiate championship of the conference. Minnesota also won all of its dual meets. In the person of Mr. Julius Perlt, A25, Coach Foster has developed one of the best college gymnasts in the United States. In a triangular meet held at Madison, with the University of Wisconsin and

the strong eastern team from the University of Pennsylvania, Minnesota won first place. The varsity team also included other splendid individual performers as well as a goodly number of players who took second and third honors in dual and conference meets.

*Wrestling.*—In wrestling, Minnesota made its best showing in several years. Coach McKusick has heretofore been greatly handicapped by lack of space for giving wrestling instruction. Instead of practicing in the cramped quarters of the narrow alcove of the old armory, two wrestling rings were installed on the second floor of the new stadium. This made it possible to give regular instruction and to accommodate a larger number of candidates. The team made an improved showing in dual meets and placed higher in the conference than in recent years.

*Tennis.*—Altho one of Minnesota's oldest sports, tennis has been meeting with handicaps. These are chiefly in the form of (1) no facilities for indoor tennis instruction which is particularly important, due to our late outdoor season, and (2) the absence of regular instructors and coaches. A year ago Mr. Sanders, a graduate student, took over the instruction of the varsity team as an amateur and gave splendid service without remuneration. A noticeable improvement in individual and team play followed. Mr. Sanders did not return this year, making it necessary to secure a new coaching staff. This was provided by a coaching committee which consisted of Mr. E. B. Pierce, Dr. H. S. Diehl, and Henry Norton, Law 1923. This committee served without remuneration and gave a good deal of valuable instruction to the candidates. They were assisted in the team management by Mr. Harold Taylor, instructor in physical education. The team made a good showing with a victory over Wisconsin, a tie with Chicago, and losing to Iowa and Northwestern. Two representatives were sent to the conference. Because of its later life physical education value, it is hoped that we may soon provide better facilities for indoor tennis and a more permanent system of instruction.

*Golf.*—Golf was discontinued as an intercollegiate sport this year, altho all other conference institutions were represented with teams. The reason for this was chiefly limited finances. The sport was, however, continued prominently as an intramural sport as the statistical table on intramural athletics will show. It is hoped that it may soon be resumed as an intercollegiate sport. With the establishment in all parts of the state and nation of public and private golf courses, golf can no longer be considered a rich man's game. It is one of the oldest and best athletic games, rich in physical education values for men and women for many years following college days.

*Rifle shooting.*—Rifle shooting was again an unofficial intercollegiate sport at Minnesota. This activity was again entirely in charge of the Military Department. While intercollegiate in character, the team does not travel and the University had no expenses to meet in connection with it. The team again won the intercollegiate championship of the United States, winning the Hearst trophy for the second time and the Corps Area championship as well. Captain Tyschen and Sergeant Mylke gave



a splendid course of instruction and deserve much praise for the excellent showing made. The Senate Committee on Intercollegiate Athletics has not seen fit to establish the sport as an intercollegiate athletic activity. Altho the matter of its adoption in the conference was presented last June, no favorable action was taken. There is still a good deal of feeling that the gallery rifle practice is not sufficiently athletic in character. There is no doubt, however, that proficiency in this activity requires good physical condition and the finest kind of eye and hand co-ordination.

*Ticket administration.*—Dr. Cooke was appointed ticket manager and Kenneth Wells was appointed as his assistant. Preliminary studies were made of systems in use in other institutions and the desirable features of each were adopted to fit the situation at Minnesota. Preference was given, in the allotment of football seats, to those whose pledges to the stadium-auditorium fund were paid up to date. The "M" men were given reserved seats, with the privilege of purchasing one ticket adjacent to their complimentary seat. Students and faculty were given reserved seats for each game, instead of the previous system of general admission which was unsatisfactory to all excepting those who came early. Students and faculty ticket sales rose from about 2,800 in 1923 to 6,700 in 1924. The mailing list for football information was raised from 3,500 to 10,000. The public season ticket book sale was raised from 350 of the previous year to 2,500, in spite of the fact that we played one additional home game. The total home attendance last fall was 139,698 as compared with 63,059 for the season 1923. Nearly a quarter of a million dollars came through the ticket office in a period of about two months as compared with \$88,000 for the year 1923, not counting receipts from other institutions in either case. The rapid growth of public interest in football, the coming of the new stadium, and the great fluctuation in the load of the ticket office have all contributed to make the financial administration of this work difficult and expensive. Inexperienced management, no doubt, was also a contributing factor in the cost of ticket administration. However, in comparison with other institutions, our cost of ticket administration was not disproportionately large, altho apparently it was larger than it should have been. Dr. Cooke and Kenneth Wells are again in charge of the athletic tickets for the coming year and their experience of the past year should prove invaluable and make for reduction in costs. They are trying to give the best possible service to the general public and the University consistent with economy and efficiency. We confidently look for a larger measure of success in this work for the year 1925-26.

*Senate Committee on Intercollegiate Athletics.*—Altho a more detailed report of the work of the Senate Committee on Intercollegiate Athletics has no doubt been prepared by Chairman E. B. Pierce, it is fitting here to acknowledge the excellent co-operation and help by all the members of this committee. Special mention should be made of the services of Mr. Lobb, Professor Zelner, Dr. Diehl, and Mr. Pierce. Mr. Lobb gave much valuable help in our financial administration, particularly in the preparation and revision of our budget and as a member of the Field Committee.

Both intercollegiate and intramural athletics will sustain a great loss by his leaving the University. Professor Zelner rendered most valuable services to intercollegiate athletics as chairman of the Field Committee in the planning and construction of the football field and running track in the stadium. He also gave much time as chairman of the subcommittee on eligibility. Dr. Diehl served very efficiently as chairman of the Ticket Committee, handling with his committee many new and difficult ticket matters. Chairman Pierce was frequently called in for counsel on many special matters this year due to numerous changes and readjustments.

The statistical table presented here comprises a more detailed comparative study of intercollegiate athletics for the year :

STATISTICAL TABLE OF INTERCOLLEGIATE ATHLETICS, SEASON 1924-25

Sports	Total No. Games	No. Conference Games	No. Non-Conference Games	Total No. Receiving Athletic Instruction, Including Freshmen	No. Varsity Candidates for Teams	No. with Intercollegiate Competition	No. "M's" Awarded	No. Freshman Candidates	No. Numerals Awarded	No. Games Won
Football .....	8	4	4	265	60	26	23	205	21	3
Baseball .....	21	12	9	120	70	18	11	50	15	12
Basket-ball ....	16	12	4	222	72	15	12	150	15	10
Cross country ..	4	3	1	154	40	10	6	114	10	none
Gymnastics ....	4	3	1	20	15	10	6	5	none	4
Hockey .....	10	6	4	86	41	14	11	45	15	8
Swimming .....	6	4	2	85	24	16	13	61	15	5
Tennis .....	5	5	none	50	20	4	4	30	none	1
Track .....	4	4	none	125	50	30	13	75	22	1
Wrestling .....	4	3	1	56	34	10	9	22	none	none
Rifle shooting ..	38	6	32	1,165	435	29	..	none	none	36
Totals ...	120	62	58	2,348	861	182	108	757	113	80

## PROFESSIONAL TRAINING COURSE

The professional training courses in physical education are gradually increasing in enrolment. This year four seniors completed the work. At present the enrolment is as follows: freshmen 6, sophomores 7, juniors 5, and seniors 5. There is an increasing demand for educated men to take charge of the physical education programs in the school systems of Minnesota and other states. Besides our regular four-year students, many men who are normal school graduates and who are already teaching, are coming to the University to finish their work and receive degrees. Our registrations include also quite a number of men who are teaching physical education courses or coaching athletic teams on a part time basis,

and some principals and superintendents who wish to orient themselves in this work.

Mr. Keller is in charge of the professional training courses and is assisted in the work by Mr. Luehring, Dr. Cooke, Mr. Taylor, Mr. Spaulding, Mr. Finger, Mr. Thorpe, and Mr. Iverson. The main part of the theory work was taught by Mr. Keller, Dr. Cooke, and Mr. Luehring. Mr. Keller taught Minor Sports, Kinesiology, History of Physical Education, Principles of Physical Education, Technique of Gymnastic Teaching, Baseball, and Practice Teaching. Dr. Cooke taught Physical Examination and Normal Diagnosis, Orthopedic and Remedial Gymnastics, Basket-Ball, and Athletic Training and First Aid. Mr. Luehring taught Athletic Organization and Administration, Organization and Administration of Physical Education, Physical Education in the Public Schools, and Basket-Ball. The other men in the staff handled the outer courses.

There were no marked changes made in the curriculum this year. One course, formerly called gymnastics and carrying a total credit of nine hours, was split up into Kinesiology, four credits, Gymnastics, three credits, and Technique of Gymnastic Teaching, two credits. A few changes are being considered for next year. We are hoping to be able to drop out the foreign language requirement of fifteen credits and in its place put Experimental Psychology, Public Speaking, and possibly some other course in the College of Education which will be of more benefit to men who are to teach physical education.

The University of Minnesota can well be proud of the alumni who have chosen to make physical education their work. A considerable number are already out in the field and more are entering it. Reports indicate that this jump is doing good work. Following is a partial list of these men:

Niel Arntson	Ray Eklund	W. S. Kienholz	Boles Rosenthal
Ed. Buckley	Leonard Frank	Ted Moyle	Clark Shaughnessy
Bernie Bierman	Ernest Hansen	Earl Martineau	Francis Stadvold
Merton Dunnigan	Harold Hansen	Fred Oster	Ossie Solem
Gilmour Dobie	George Hauser	Fred Pramann	
Fred Enck	Marvin L. Johnson	A. G. Robertson	

To this list can be added the men who are graduating this year and who are entering this work:

Fred Brandes	Percy Clapp	William W. Foote	Lloyd Peterson
Clarence Schutte	Victor Dunder	Louis Gross	Julius Perl
Theodore Cox			

The summer courses in physical education have been fairly promising. Last year we had 118 registered and this summer 110. These students are coaches, teachers, high school principals and superintendents. Most of those taking these courses come from schools and colleges in Minnesota and adjoining states. The numerous staff changes which have been made in the past two years and the small amount of publicity which this work has received have probably checked the progress of this work a good deal. A number of other conference institutions are putting out very attractive

advertising matter. The Summer Session budget gave us no help on this matter this year and our own budget had but very little money available for such promotional work. The course itself furnishes an opportunity for a person to obtain instruction in all branches of physical education. It is about as complete as can be offered with the limited budget allowed. Two new subjects were put in the curriculum this year. They were Winter Sports and Orthopedic Gymnastics. Neither received enough registrations to justify its continuance. This was probably due to the fact that very little publicity was given them. Our summer courses should draw men from the entire Northwest. The climate and recreation facilities afforded here are such that would induce men to come from many other states, especially those further south. If better publicity be given and fitting courses offered, the summer courses should grow rapidly.

Respectfully submitted,

F. W. LUEHRING, *Director*

## THE DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

*To the President of the University:*

SIR: I beg to submit my report on the work of the Department of Physical Education for Women for the year 1924-25.

There were no changes in faculty during the year with the exception of Dr. Alice H. Tolg's absence on sabbatical leave and the resultant adjustments within the staff. These included the employment of Miss Marion McGimsey to teach orthopedic gymnastics. Miss Katharine Sias and Miss Rhea M. Coxe resigned their positions in the spring quarter.

My report covers the outstanding developments of the year.

*Silhouettograph.*—The silhouettograph was adopted this year as the best posture record yet devised which is practicable for large numbers of examinations in a short time. It was perfected recently by Mr. Norman Fraad, of Harvard University. The instrument used is a camera which prints a white figure on a black background with a four-second exposure. It takes the place of the shadowgraph (a tracing of the outline of the torso) which we have used for the past nine years.

In our work for good posture a graphic record at the beginning and end of the course is of the greatest assistance in both interesting and instructing the student.

For two years the department has been co-operating under the leadership of Miss Helen W. Hazelton to revise the gymnastic portion of the course in required freshman physical training classes. Gymnastics has always been subjectively taught and has depended almost entirely for its success on the personality of the teacher. If that was not strong the lesson became what has been frequently referred to as "deadly drill." As a result, and because it was not subject to scientific testing, gymnastics has fallen into disrepute in many quarters. There are, however, certain values in localized motor control, localized relaxation, generalized facility for learning new co-ordinations, and applications to improve habits of standing, sitting, and walking which can be taught better in gymnastics than in other forms of exercise.

The project on which the staff is engaged is for the purpose of objectifying the teaching of gymnastics. The physical education field is rich in objective material, which has been used heretofore principally for recreative purposes. The compilation of exercises by the department gives a basis for a laboratory experiment in which conscious localized controls and skills will be worked for in an objective way. This is a pioneer field and one which has aroused much interest on the part of the staff, who have contributed generously of time and thought in preparing the compilation. A preliminary use of it has proved stimulating to the students. It will be drawn upon in all gymnastic work next year and a study will be made to find a satisfactory basis for tests and grading.

The material has been classified under the heads: I. Exercises relating to posture; II. Exercises relating to apparatus work; III. Exercises relating to sports and athletics; IV. Exercises relating to folk dancing. All sources have been drawn upon, traditional gymnastics, orthopedic gymnastics, interpretive dancing technique, balance and agility exercises, elements of performance in vaults, jumps, suspensions, basket-ball, skating, swimming, canoeing, archery, tennis, baseball, track and field athletics, and folk dancing.

Under Miss Gertrude M. Baker's leadership the critic teachers of practice teaching in various branches of physical education have been evolving outlines of topics by which to report their observations. These are already proving of much value in directing the critic's attention to a careful analysis of the performance of the practice teacher, in providing a permanent memorandum of the elements of the teaching, by which a rather complete picture of the performance can be constructed, and in serving as a basis for conference between critic teacher and practice teacher. They indicate the extent to which the practice teacher has used sound teaching methods and challenge her to think up definite bases for success besides personality. They use the terminology of general education and thus emphasize the fact to both critic and student that physical education is one phase of general education.

Outlines for use in the sports and games, dancing and orthopedic gymnastics are under way now in the hands of interested members of the staff.

While the temptation is great to use the practice teachers as assistants in the department and to turn over to them sections of overcrowded classes, we realize that it is only by frequent observation and conference that they can grow to be superior teachers and our effort is to observe them in as many as half of their teaching experiences. While lack of a staff personnel adequate to this program has interfered with it at times the addition of one instructor in the department for the coming year will help greatly in achieving the goal.

The Physical Education Association (of major and minor professional students and faculty) prepared and published the second annual *Alumnae Bulletin* during the winter and issued it to the graduate and undergraduate members. This year the bulletin was entirely in the hands of the students. As a means of acquainting alumnae with developments at the University and keeping undergraduates and faculty in touch with progress among graduates it is a project in which the association is keenly interested. It is financed by the association.

It is gratifying that all of the graduates of the professional training course for the past three years have been holding positions in their specialty during the year, except one who is married and living at home. Their distribution is as follows:

		States
Teachers college.....	2	Illinois Iowa
College or university.....	5	Arizona Indiana Iowa Minnesota Wisconsin
High school .....	3	Indiana Minnesota (2)
High school and grades .....	6	Illinois Minnesota (3) Montana North Dakota
Grades .....	4	Michigan (2) Minnesota (2)
Private school .....	1	Washington, D. C.
Married .....	1	
Total .....	22	

*Women's Athletic Association.*—The Women's Athletic Association has proved a most helpful instrument, as in the past, for securing progress in organization, publicity, and general student interest in athletics.

Two developments deserve attention. The House League (dormitory, sororities, co-operative cottages, large rooming houses) has been unable to find any hours except the noon hour when it could use the gymnasiums for basket-ball. More time than this was needed by its teams; therefore, it asked permission to play also on the three evenings in the week when the building was open for extension work. The association arranged a schedule and four teams used the evening hours regularly during the season. They demonstrated the need, incidentally, for faculty co-operation and supervision of these periods. Next year the enlarged staff will make this possible.

The organization incorporated into the list of sports eligible for points under the 1,000 point system several activities which appeal chiefly to the girls who are not necessarily among the strongest or most athletically inclined. Interpretive dancing, apparatus work, archery, orthopedic gymnastics, and volley ball have all been given a place in the system. Probably no girl was more thrilled over her first 25 points than one of the orthopedic cases (a victim of infantile paralysis), who had worked very hard for the improvement necessary for the award.

The presence of a skating rink near the side door of the gymnasium was of the greatest assistance in maintaining regular participation in ice hockey, and in fostering an interest in learning to skate. We expect to have it built at the beginning of the season next winter and to give it an official status.

The appointment by the president of a Committee on Intramural Sports was followed by a meeting of the committee, Mr. F. W. Luehring, Mr. W. R. Smith, Dr. H. L. Diehl, Miss M. S. Kissock, and Dr. Norris. The committee organized, elected Mr. Luehring as chairman and Dr. Norris as secretary.

It was agreed that there were three main lines for consideration by the committee: the determination of the scope of joint activities, the budget, and the personnel. Tennis and skating were recognized as the only joint activities at this time. Tennis is a joint activity in both equipment and care. Skating becomes a departmental activity in equipment with the building of a rink next to the Women's Gymnasium in addition to the rink on Northrop Field; in case it continues to be a joint activity.

The committee appointed Mr. Smith and Miss Kissock a subcommittee to supervise the operation of joint activities.

It was determined that the committee should meet at least once a quarter at the call of the chairman or the secretary to plan activities for the following quarter and should meet at such other times as either the chairman or secretary may deem necessary.

The department is in sympathy with the widespread disapproval which physical educators and general educators have for both intercollegiate and interscholastic competition for girls and women (except in telegraphic meets). It believes that the point system in athletics is the logical answer to the quest for something to take the place of interinstitutional competitive schedules. Nevertheless, where such competition exists, it behooves everyone who is interested in physical education to co-operate when opportunity presents itself for the purpose of helping to promote the best conditions possible. During the past three years Miss Kissock has co-operated with the Board of Park Commissioners in this way, and has been president of the Municipal Basket Ball Association. She has conducted a short course for officials each year and has acted in an advisory capacity when troublesome situations have arisen.

*University High School.*—A reorganization of student athletics control was devised by Miss Sias, whereby the "U" Club becomes the student body that fosters athletics. "Acme," the society which fosters both a high scholastic grade and athletic participation and ability, is out of the reach of most of the girls because of its standards. It will still remain the most coveted of all honors, as membership in it signifies a very high development of "all round" qualities, but the "U" Club will be the larger and more representative group. Both clubs are based on a point system.

The students continue to be accommodated in the Women's Gymnasium for all of their physical education activities. Sixteen hours a week are scheduled for their classes and play hours.

The gymnasium building has practically reached its limit for the expansion of classes. The two gymnasium floors are occupied in class work 40 hours out of a possible 44 every week from 8:30 to 5:30. (Forty-four periods do not include the fifth hour, which we try to avoid for class work. It is used in winter, however, by the House League in basket-ball.) The



swimming pool is occupied every hour except the first and sixth. (These hours falling immediately after breakfast and lunch, it would not be proper to offer swimming.) Even the little orthopedic room, which is used by a highly selected group is occupied 30 hours out of 44. In addition, classes have been held between the regular classes in periods when the enrolment has been uncontrollably large. This has happened in 14 class periods a week. For instance, VIII MW, Advanced Swimming class of 40 was in the pool from 3:40 to 4:10; another class of 30 entered the pool at 4:10 and stayed till 4:40. Not more than 40 advanced swimmers should ever be in the pool at once. There are 40 dressing rooms 36" x 40". The question is, where did the additional 30 (75 per cent) do their dressing and leave their clothing?

There are 164 dressing booths 36" x 36" in connection with the main shower room. One class of 182 and one of 216 were enrolled in the fall quarter, 1924. The confusion, discomfort, and delay are serious under such conditions.

It has been suggested that the large classes might be handled in two shifts (as in the case of the advanced swimming mentioned above) if only there were sufficient dressing room space and lockers to accommodate them. The difficulty with this solution is that two successive periods of the student's time are necessary for scheduling a class "between classes" and that program difficulties might reduce the relief so much that it might not justify the expense of building extra dressing rooms and locker spaces.

I would recommend that a study be made looking toward relief of the condition. Five possibilities have been suggested: depressing the floor of the locker and dressing rooms and double-decking them, building an addition to locker and dressing rooms by enlarging the building, a tunnel to the Old Library with locker, dressing, and shower space there, a new gymnasium on the land back of the tennis courts, giving the present building up for other uses, holding classes in the evening, the use of a portion of the stadium.

All of these suggestions carry their own objections. A study of the situation may bring the best solution.

## ENROLMENT

### ENROLMENT OF NON-PROFESSIONAL STUDENTS

Freshman requirement	
Hygiene .....	890
Elementary physical training (fall quarter).....	806
Sophomore requirement (fall quarter)	
Physical training .....	114
Elementary swimming .....	247
Advanced swimming .....	92
Interpretive dancing .....	99
Games and folk dancing.....	66
Major sports (field hockey).....	90
<hr/>	
Total sophomores .....	708

THE PRESIDENT'S REPORT

Distribution of freshmen among sports (spring quarter)		
Tennis .....	320	
Archery .....	160	
Volley ball .....	19	
Baseball (2 periods).....	318	
Pentathlon (1 period).....		
	<hr/>	817
Enrolment for major sports		
Field hockey		
Sophomores to fulfill requirement.....	90	
Other classes, elective.....	120	
	<hr/>	210
Ice hockey, elective.....	25	25
Basket-ball		
Sophomores to fulfill requirement.....	93	
Elective classes, main campus.....	60	
Elective classes, farm campus.....	20	
	<hr/>	173
Baseball		
Freshmen, to fulfill requirement.....	318	
Sophomores, to fulfill requirement.....	109	
Elective, main campus.....	105	
Elective, farm campus.....	25	
	<hr/>	557
Elective swimming, number of swims .....		2,293

PROFESSIONAL COLLEGE STUDENTS

Seniors .....	9	
Juniors .....	27	
Sophomores .....	35	
Freshmen .....	40	
Minoring in Physical Education.....	3	
	<hr/>	114

UNIVERSITY HIGH SCHOOL GIRLS

Freshmen .....	32	
Sophomores .....	27	
Juniors .....	27	
Seniors .....	37	
	<hr/>	123

EXTENSION CLASSES

Swimming, both semesters .....	241	
Swimming, Summer Session .....	21	
Interpretive dancing .....	39	
	<hr/>	301

SUMMER SESSION

Teachers course in play.....	28	
Teachers course in gymnastics.....	42	
Interpretive dancing .....	24	
Teachers course in highly organized games.....	23	
Swimming .....	158	
Teachers course in swimming.....	12	
	<hr/>	287

PHYSICAL EXAMINATIONS

Entrance examinations		
Fall .....	1,097	
Winter .....	79	
Spring .....	55	
	<hr/>	1,231

A second examination was given in the spring to all freshmen and sophomores, and to those juniors and seniors who were completing the Physical Education requirement.

STUDENT HOURS PER WEEK DURING FALL QUARTER

	Students	Hours	Student Hours
Hygiene .....	794	1	794
Elementary physical training.....	806	3	2,418
Sophomore physical training .....	114	2	228
Sophomore elementary swimming .....	247	2	494
Sophomore advanced swimming .....	92	2	184
Sophomore interpretive dancing .....	99	2	198
Sophomore games and folk dancing...	66	2	132
Sophomore major sports .....	90	2	180
Elective field hockey.....	120	2	240
Elective swimming .....	39	1	39
Extension swimming .....	124	1	124
Senior professional students.....	9	13	117
Junior professional students.....	27	12	324
Sophomore professional students.....	35	7	245
Freshman professional students.....	40	2	80
University High School.....	123	3	369
University High School hygiene (soph.)	27	1	27

6,193

REPORT OF TOURNAMENTS AND DEMONSTRATIONS

Interclass gymnastics competition.....	March 13
Dance program .....	May 27
Penny carnival .....	February 27
Class tournaments:	
Field hockey .....	November 3-5
Ice hockey .....	February 10-14
Basket-ball .....	March 6-11
Baseball .....	May 25-June 2
Interclass swimming meet .....	March 10
Spring carnival .....	June 2
University High School interclass gymnastics contest.....	April 24
University High School interclass swimming meet.....	June 3
University High School field day .....	June 6

Respectfully submitted,

J. ANNA NORRIS, *Director*

## THE DEPARTMENT OF MILITARY SCIENCE AND TACTICS

*To the President of the University:*

SIR: I have the honor to submit the following report of the Department of Military Science and Tactics for the year 1924-25.

I am glad to be able to report a very satisfactory year's work. The progress made in obtaining the right kind of students to pursue the advanced courses is especially gratifying. The Advanced Infantry Unit which, until this year, has been very small, has shown a tenfold increase. The large number of students who applied for the various advanced courses prior to the close of the school year indicates a still larger enrolment next fall.

As you know, the department was inspected by a board of War Department inspectors on May 18 and 19. While the results of this inspection have not yet been announced, the showing made by the Cadet Corps during the inspection was very pleasing to me and to the officers and non-commissioned officers on duty in the Military Department.

It is most gratifying, no doubt, to all friends of the University to know that our cadet rifle team again won the Hearst National Trophy, competing against rifle teams from some eighty other institutions. This same team won the corps area match, seven out of the ten highest men in the corps area coming from Minnesota.

The co-operation from administrative officers and college faculties has been very fine throughout the year. The normal school for officers on R.O.T.C. duty in the Seventh Corps area which was conducted in the early part of June at Fort Snelling, Minnesota, could not have been made the success that it was if a considerable number of the faculty members of the University of Minnesota had not kindly assisted us in delivering addresses on important educational subjects.

Respectfully submitted,

BERNARD LENTZ, *Major, Infantry, P.M.S.&T.*

## THE GEOLOGICAL SURVEY

*To the President of the University:*

SIR: I submit herewith my report as director of the Minnesota Geological Survey for the period from July 1, 1924, to July 1, 1925.

The survey was allotted \$16,000 for the biennial period begun July 1, 1924. The work was carried on in accordance with plans outlined in earlier reports to the president of the University and published in the annual reports of the president. At the end of the fiscal year there were under way, or completed, the following investigations:

1. The mapping of parts of St. Louis and Lake counties, particularly the areas bordering the Vermilion Iron Range. This work was done by Professor F. F. Grout, assisted by R. J. Leonard, F. J. Pettijohn, and G. R. Downs. A report on the geology and mineral resources of the area is in press and will soon be issued, and the results will be used also in the construction of the geologic map of Minnesota, now in preparation. This report contains detailed maps of 88 townships in and north of the Vermilion Range.

2. An investigation of Paleozoic formations in southeastern Minnesota was continued by Professor C. R. Stauffer. These detailed stratigraphic studies are necessary for the completion of the geological map of Minnesota.

3. The report on the iron-bearing series of the Mesabi Range, was issued late in 1924, as Bulletin 19, pp. 1-77, together with a geologic map on a scale of 1 to 62,500, or about one inch to the mile. This map includes an area 67 miles long extending from Coleraine to beyond Mesaba station. It joins the area mapped by Dr. F. F. Grout and Dr. T. M. Broderick, a report of which was issued in 1919. The two maps together cover an area 84 miles long. These maps are the first to be issued which show the subdivisions of the iron formation. The reports include detailed descriptions of the subdivisions of the rocks containing the iron ores. An understanding of these subdivisions is necessary for the economic developments of parts of the Mesabi Range, particularly in the areas that are not yet exploited. The report contains numerous sections of the rocks based on detailed study of drill cores.

4. Geological surveys of the Keweenawan area of the north shore of Lake Superior in Lake and Cook counties were made by Professor G. M. Schwartz. Some of the large areas of anorthosite were studied in detail. The principal formations were remapped on a scale suitable for use on a state geologic map.

5. The study of the manganiferous and magnetic ores of the Cuyuna Range was continued by Dr. George A. Thiel. The open pits and underground mines of the range were surveyed and numerous drill cores were studied, with the object of determining the origin and paragenesis of the manganese ores.

6. Material was collected by Dr. G. M. Schwartz for the preparation of a guidebook, which was issued in June, 1925, as *Bulletin 20 of the State Geological Survey*, 128 pages. This paper is a description of the chief geologic features to be seen along Highway No. 1 of Minnesota. This highway begins at the Iowa state line south of Albert Lea, and passes northward through the Twin Cities to Duluth and thence extends along the north shore of Lake Superior to the Pigeon River near Port Arthur, Ontario. The report includes thirteen maps which show the locations of roads, towns, and villages, and most of the rocks and land forms that are described in the text. Essentially all places mentioned in the text are located on one of the maps. The work was in charge of Dr. G. M. Schwartz, who traversed the entire route and prepared the text. A section on trees and plants is supplied by Dr. C. O. Rosendahl and Dr. F. K. Butters, of the University of Minnesota, and one on fish and game by Mr. Thaddeus Surber. The paper is intended for the use of the traveler and the general public and as far as practicable highly technical terms are avoided.

7. During the summer of 1924 work was started on the water resources of the northwestern part of the state. This work was in charge of Dr. C. R. Stauffer. Dr. I. S. Allison was engaged in the collection of samples and in field studies, and was assisted by Mr. William A. Graham. Mr. R. J. Leonard was employed as chemist in the laboratory.

In addition to the more comprehensive investigations outlined above, many inquiries are received in the offices of the survey concerning the geological structure at various places, by those who contemplate drilling for water or for ore. Many requests are received for information concerning deposits of peat, stone, clay, shale, and other rocks for artificial shingles, mineral paints, fluxes, refractories, etc. These inquiries are given careful attention, and when practicable samples of material are forwarded in order that it may be tried out. Many samples of rocks and ores are forwarded from different localities in the state to be examined to determine their availability for various economic purposes.

Respectfully submitted,

W. H. EMMONS, *Director*

## THE ZOOLOGICAL MUSEUM SURVEY

*To the President of the University:*

SIR: I have the honor to submit the following report of the condition and activities of the Zoological Museum for the year ending June 30, 1925.

### GENERAL ADMINISTRATION OF MUSEUM

The museum at the close of the year just ended is in a materially improved and healthy condition. The exhibits have been considerably increased, the active educational work has been carried on as heretofore, and an increasing amount of new information in regard to the natural history of the state has been accumulated and placed on record in the files of the museum. There has been evidence of a growing interest in the museum and its work both by the university personnel and the general public.

A natural history museum of today, developed and functioning along the best modern ideals, is a vastly different thing from the old style, passive museums, some of which, strange to say, are still in existence. The Association of American Museums and the administrators of the larger and best progressive museums in recent years are making an earnest effort to dispel from the minds of people the still prevalent conception of a museum as either an accumulation of odd, startling, often abnormal objects or a collection of dry-as-dust, unattractive specimens with an appeal only to the curiosity seeker or the closet student. It has been recently stated that "The primary object of a great . . . museum is to bring to those who cannot explore or travel, who cannot go far beyond their immediate environment, the whole world of nature."—*Report of American Museum of Natural History*. Our museum is not yet a great museum but an endeavor is being made to model it after the best that it may eventually form a worthy nucleus of the greater institution that must in time appear on the campus as an essential educational center, offering the basic, real knowledge to which books are only supplemental. Museums today are rapidly becoming the great centers from which is dispensed a satisfying, fundamental learning that can be had nowhere else and in no other way except by turning to Mother Nature herself which is not generally practicable. Also the finest exhibits of today have an esthetic appeal akin to that of the best displays in our art museums. Thus a refining and moral stimulus must be accorded to the best examples of present day natural history museums.

A much needed addition to the lecture hall on the upper floor, used chiefly by the classes in zoology but also for the Sunday museum lectures, was provided last December. This room has been without a projection booth. This was built and fully equipped during the past winter. Two thirds of the expense was charged to the museum budget, the remainder to

the College of Science, Literature, and the Arts. Funds for the purchase of a new motion picture projector for the room were generously donated by Mr. W. O. Winston, Mr. J. F. Bell, and Mr. C. C. Bovey. This provides the building with two lecture rooms fully equipped for the projection of films or slides. The lecturers in general zoology have thus been able to present to their classes illustrative material of special value and interest not possible under the old conditions. It has also made it possible to illustrate the Sunday afternoon lectures in a manner much appreciated by the large audiences.

Through a special lighting system devised by Mr. Richardson the small groups on the walls in the upper and lower halls have been rendered much more attractive and effective. While the cost of making and installing these lights was considerable the greatly improved conditions are well worth the outlay.

In the latter part of last August, Mr. and Mrs. E. L. King, of Winona, generously proposed that they collect material for the museum while on a projected hunting expedition into East Africa. The proposal was considered by the officers of the University and museum, accepted with provisos, and Mr. King was provided with the necessary commission from the University to secure such specimens as the museum could properly care for which were indicated on a list prepared and submitted to him. The expedition sailed in the latter part of September and returned to Winona about June 1. A large and varied collection of specimens was secured, a selection from which is to be donated to the museum. The collection had not arrived in this country at the time of the close of this report.

Reference has been made above to the educational and esthetic value of the museum. A more sordid and material view presents itself as the result of a cost-price inventory of the property of the museum made recently. This shows that the actual money value of the museum as an asset of the University stands today at between seventy-five and one hundred thousand dollars. This has grown up during the last few years from a start of practically nothing except the caribou group which was moved from Pillsbury Hall at the beginning of the new departure. This growth has been accomplished not only by the appropriations made by the University but even to a greater extent by large donations made by a considerable number of interested citizens among whom it is but fair to name personally Mr. James Ford Bell without whose continued and generous contributions the museum could not possibly have existed as a going concern.

*Attendance.*—There is at present no way to determine even the approximate number of visitors coming to the museum from day to day but it is safe to say that there has been a marked increase in the daily attendance throughout the last year. There are many out-of-town visitors and on special occasions at the University a considerable number of those on the campus come to the building to inspect the museum. On Mother's Day and Dad's Day during the past year the students have brought their parents and friends in such numbers that the halls are well filled all day.



During the meeting of the Minnesota State Medical Society, which was held at the University this year, the museum was listed among the "exhibits" and many members of the society inspected the groups. The Central Interurban Clinical Club met at the University April 18, and the museum was featured on its program, a lecture illustrated with motion pictures being included in the attractions offered. More people than usual came to the museum on Sunday afternoons during January, February, and March, when the building was open from 2 to 5 o'clock simply to inspect the exhibits without attending the lectures.

*Exhibits.*—The large black bear group was not completed during the past year as much of Mr. Richardson's time was diverted to other work, but it is now in the final stages of construction and will be finished in the near future.

Seventeen small groups in the portable loan series have been completed since the last report and form an attractive exhibit on the walls of the upper and lower halls. These are mostly bird groups but several contain small mammals. Where appropriate the groups have been provided with enlarged photographic colored backgrounds which add greatly to their beauty and effectiveness. The backgrounds are mostly from photographs taken for the purpose by Mr. Richardson but several are from negatives made by the director many years ago. The coloring has been done by Mrs. Richardson who, under the supervision of her husband, Mr. Richardson, is also responsible for the construction of the groups containing birds. The expense of this work was provided by funds donated for the purpose by Mrs. George Chase Christian. Full explanatory labels have been prepared by the director and Mr. Kilgore, printed in the university printing department, and add greatly to the educational value of the exhibits.

Following is a list of the subjects shown in these new groups: vesper sparrow, oven bird, Brewer's blackbird, song sparrow, great gray and saw-whet owls, horned lark, two containing winter birds, ruby-throated hummingbird, robin, blue jay, chestnut-sided warbler, bluebird, downy woodpecker, cotton-tail rabbit with young, snow-shoe rabbit, and a group containing gray, black, and red squirrels. All except five of these groups contain colored backgrounds and natural accessories including nests and eggs or young.

In addition to these seventeen smaller groups two larger groups have been finished showing respectively a ruffed grouse with her newly hatched chicks and a pair of mourning doves with nest and young. These groups are installed in a twin case and are at present displayed in the sheep group room on the basement floor. The backgrounds are enlarged photographic transparencies made and colored by the Haynes Studio of St. Paul. The original negatives were taken by Mr. Richardson for this special purpose. A feature of these groups is the beautiful waxwork reproductions of plants and flowers appropriate to the surroundings. The stemless lady's slipper in the grouse group and the wild cranesbill in the dove group are worthy of special mention. They were made by Mrs. Richardson as were all the other plants in the two groups. The cost of constructing these two groups

was paid out of the museum subscription fund, provided by Mr. James F. Bell.

The effectiveness of the small groups has been greatly enhanced by the special lighting device previously referred to as the invention of Mr. Richardson. The aluminum reflectors required for this purpose were made in the university shops and have proved entirely satisfactory. The installation of the system called for considerable electric wiring in the upper and lower halls, which was done under the direction of Mr. E. A. Lieck, foreman electrician of the University.

The cases for all the above groups were made in the university shops under the direction of Mr. E. J. Hemple, foreman carpenter; and Mr. David Crowther, superintendent of the central repair shops, has constructed certain specially designed metal supports required in the arrangement of some of the groups.

*Complete lecture schedule.*—The lecture work of the museum may be summarized as follows: Seventy-six lectures have been given under the auspices of the museum, with a total attendance of 8,090. Of this number thirteen were Sunday afternoon lectures with an attendance of 3,135. Of the remaining 63 lectures, 46 were given at the museum and 17 outside. Only 9 of the 63 were to audiences composed chiefly of adults, 54 being to students or children mostly from the public schools of Minneapolis and St. Paul. Out-of-door lectures, illustrated with specimens from the museum, were given at the St. Paul Girl Scout camp at Marine and at the Minneapolis Girl Scout camp at Bloomington. Illustrated lectures were given at the Owatonna High School and at the Waseca High School on April 30 and May 1, respectively, and on May 1 a talk with motion pictures at the State Public School at Owatonna. On the invitations of Dr. Sigerfoos and Dr. Ringoen three lectures on bird migration were given to the first year zoology class.

Nine of the lectures at the museum were given by Mr. Kilgore, the others, except eleven of the Sunday afternoon lectures, by the director. The following list will show in detail the nature of the audiences reached. The lectures have dealt entirely with natural history subjects and have been illustrated with motion pictures, slides, or material from the collections of the museum. In the case of the lectures held at the museum they have with but few exceptions been supplemented by an inspection of the exhibits with talks by Mr. Kilgore and the director.

#### LECTURES GIVEN UNDER AUSPICES OF ZOOLOGICAL MUSEUM

Year Ending June 30, 1925

1924		No. present
July	18. Boy Scouts; Mr. Kilgore; at museum.....	15
July	25. St. Paul Girl Scouts; at Marine, Minnesota.....	55
July	26. Minneapolis Girl Scouts; at Nine Mile camp.....	35
August	27. University of Minnesota Summer School; at Music Bldg. . .	125
September	26. Special group; at home of Mr. and Mrs. Frank W. Commons, Crystal Bay, Lake Minnetonka.....	30
September	27. Group from St. Cloud Teacher's College; at museum.....	20
October	13. Roosevelt Junior High School class; at museum.....	28

1924		No. present
November	5. Linwood School class of St. Paul; Mr. Kilgore; at museum	45
	The Colonial Dames of Minnesota; at State Historical Society, St. Paul.....	125
November	7. Biology section of M. E. A.; at museum.....	95
November	13. American Ornithologists' Union; at Carnegie Museum, Pittsburgh, Pa. ....	200
November	21. Minneapolis Audubon Society; at Walker Branch Library..	45
	St. Margaret's Academy; Mr. Kilgore; at museum.....	56
November	24. St. Margaret's Academy; Mr. Kilgore; at museum.....	55
November	25. Greeley School class; Mr. Kilgore; at museum.....	30
December	3. Greeley School class; at museum.....	60
December	6. West Lake Y. M. C. A.; Mr. Kilgore; at museum.....	20
December	10. South Side High School Linnean Society; at museum.....	50
December	15. Special group from out of town; Mr. Kilgore; at museum..	18
January	2. Farmers' Short Course; at University Farm.....	63
January	4. Sunday lecture; at museum.....	125
January	8. South High School class; at museum.....	12
January	10. Wayzata High School class; at museum.....	30
January	11. Sunday lecture; Mr. Gale; at museum.....	150
January	16. North High School class; at museum.....	65
January	18. Sunday lecture; Mr. Sigerfoos; at museum .....	275
January	25. Sunday lecture; Mr. Riley; at museum.....	200
February	1. Sunday lecture; Mr. Chapman; at museum .....	260
February	5. Bethel Academy of St. Paul; at museum.....	24
February	7. West Lake Y. M. C. A.; at museum.....	30
February	8. Sunday lecture; Mr. Harris; at museum.....	275
February	13. Four Square Club of Douglas and Kenwood Schools; at museum .....	43
February	15. Sunday lecture; Dr. Zon; at museum.....	275
February	20. Garfield School classes; at Garfield School.....	300
February	22. Sunday lecture; Mr. Minnich; at museum.....	250
February	26. Julia Ward Howe School class; at museum.....	45
February	27. St. Catherine's College of St. Paul; museum.....	40
	Miss Sterrett's School class; at museum.....	36
March	1. Sunday lecture; Mr. Edgar; at museum.....	225
March	6. Miss Wood's Kindergarten School class; at museum.....	75
March	8. Sunday lecture; at museum.....	350
March	10. Sidney Pratt and Franklin Junior High School classes; at museum .....	30
March	13. St. Paul Campfire Girls; at museum.....	12
March	15. Sunday lecture; Dr. Erdmann; at museum.....	250
March	17. Sidney Pratt School class; at museum.....	34
March	22. Sunday lecture; Mr. Huff; at museum.....	300
March	26. St. Paul Central High School class; at museum.....	34
March	27. West High School class; at museum.....	5
	Peabody School class; at museum.....	35
March	29. Sunday lecture; at museum.....	200
April	3. Johnson High School class of St. Paul; at museum.....	70
	Minneapolis Audubon Society; at Walker Branch Library..	100
April	7. Minneapolis Campfire Girls; at museum.....	17
April	14. Dr. Sigerfoos' general zoology class; at museum.....	125
April	16. Men's Confederation; Lynnhurst Congregational Church..	150
	Simmons School class; at museum.....	29
April	17. Edina Mills School class; at museum.....	62
	Boy Scouts; at museum.....	22
April	18. Central Interurban Clinical Club; at museum.....	24
April	21. Clinical School classes; at Clinton School.....	650

1924		No. present
April	24. Minneapolis Day School for the Deaf; at museum.....	20
	Dr. Ringoen's general zoology class; at museum.....	100
April	28. Central High School class; at museum.....	75
	Dr. Sigerfoos' general zoology class; at museum.....	125
April	30. Owatonna High School; at Owatonna.....	600
May	1. State School for Children; at Owatonna.....	250
	Waseca High School; at Waseca.....	150
May	5. West High School class; at museum.....	50
May	7. Izaak Walton League; at Ryan Hotel, St. Paul.....	60
May	8. Four Square Club of Central Y. M. C. A.; at museum.....	10
	Johnson High School class of St. Paul; at museum.....	30
May	14. Hiawatha School class; at museum.....	40
May	26. University ornithology class and friends; at museum.....	60
June	4. Simmons School class; at museum.....	40
June	9. Simmons School class; Mr. Kilgore; at museum.....	40
June	10. Calhoun School class; Mr. Kilgore; at museum.....	36
		8,090

*Sunday afternoon lectures.*—The fifth annual Sunday afternoon lecture course was given during January, February, and March. The attendance usually exceeded the capacity of the hall and on several occasions overflow lectures were given by the director and Miss Tillisch in the lower lecture room, these audiences being composed largely of school children with a few parents and teachers. With the exception of the sending out of several hundred printed programs, and notices in the university publications, there has been no advertising of these lectures as it would be impossible to care for the large number of people who would unquestionably seek admission if attention were called to them in the public press. As it was, many of those who came this year had to content themselves with inspecting the museum as the main lecture room was often crowded to the door at an early hour. This is good evidence of the appreciation on the part of the general public of scientific offerings of this kind and is gratifying to those concerned in an enterprise that was at first considered as an experiment. All of the lectures were illustrated with lantern slides and motion pictures and frequently films from the collection of the museum were shown at the end of the hour. Special thanks are due to two well-known citizens of Minneapolis (Mr. E. C. Gale and Mr. W. C. Edgar), not connected with the University, who kindly consented to fill places on the program and presented subjects of historical and literary character which were much appreciated by capacity audiences. The other lecturers were all members of the university faculty who gave willingly and freely of their time and effort, and to whom most appreciative thanks are tendered.

The following transcript of the program of the Sunday lectures will show the nature of the subjects presented and the names of those who took part:

## PROGRAMS OF SUNDAY LECTURES

- January 4. The Winter Bird Life of Minnesota, by Thomas S. Roberts, of the Zoological Museum, University of Minnesota.
- January 11. Pictures of Minnesota before the Days of Photography, by Edward C. Gale.
- January 18. Life and Work of Charles Darwin, by Charles P. Sigerfoos, professor of zoology, University of Minnesota.
- January 25. Spinners and Weavers of the Insect World, by William A. Riley, professor of entomology and economic zoology and chief of the Division of Entomology and Economic Zoology, University of Minnesota.
- February 1. In Hawaiian Waters, by Royal N. Chapman, associate professor of animal biology, University of Minnesota.
- February 8. Among Hawaiian Plants, by J. Arthur Harris, professor of botany and head of the Department of Botany, University of Minnesota.
- February 15. The Forest As a Plant Community, by Raphael Zon, chief of Lake States Forest Experiment Station.
- February 22. Some Spineless Denizens of the Sea, by Dwight E. Minnich, assistant professor of animal biology, University of Minnesota.
- March 1. "The River Jordan: Adventures of a City Man in the Country," by William C. Edgar, former editor of *The Bellman* and *The Northwestern Miller*.
- March 8. Birds of Other Lands in Motion Pictures, by Thomas S. Roberts, director of the Zoological Museum, University of Minnesota.
- March 15. Men of the Old Stone Age, by Charles A. Erdmann, professor of anatomy, University of Minnesota.
- March 22. Wild Flowers; Where They Grow and Why, by N. L. Huff, assistant professor of botany, University of Minnesota.
- March 29. Bird Banding; History, Object, Methods, and Results, by Thomas S. Roberts, director of the Zoological Museum, University of Minnesota.

*Study collection.*—Fifty-one birds, five mammals, and a few nests and eggs have been added to the study collection during the past year. A considerable number of specimens collected during June in North Dakota by Mr. Richardson (still in the field) will have to be credited next year. The collections are open to all who know how to handle the specimens and many avail themselves of the opportunity throughout the year. The specimens are now fully cataloged and indexed and there is no trouble in finding anything that is wanted.

*Accessions to the museum.*—The following list shows the nature and source of gifts of material that have been received by the museum during the past year exclusive of the formal groups mentioned elsewhere. The donors have all received personally the thanks of the museum but it may here be stated that all such expressions of interest in our welfare and material development are fully appreciated.

## ACCESSIONS TO MUSEUM

## BY GIFT

Mr. Frank Blair, Mound.....	1	rough-legged hawk; in flesh
Dr. Chester M. Carlaw, Minneapolis.....	1	big brown bat; in flesh
Mr. and Mrs. Frank W. Commons, Crystal Bay .....	1	white-crowned sparrow; in flesh
Mrs. Frances Davidson, Minneapolis.....	1	nest and four eggs of Wilson's phalarope
Mr. P. O. Fryklund, Roseau.....	1	saw-whet owl, 1 shrew; in flesh
	1	red-tailed hawk; mounted

Mr. J. E. Grimes, Minneapolis.....	1 mallard—pintail duck (hybrid); in flesh
Mr. G. E. Harrison, Crystal Falls, Mich...	1 flying squirrel; in flesh
Mr. N. L. Huff, Minneapolis.....	4 lantern slides and 4 prints
Mr. Luth Jaeger, Minneapolis.....	1 short-eared owl; in flesh
Mr. H. J. Jager, Owatonna.....	1 blue goose, 1 brant; in flesh
Mr. Paul V. Jaqua, Long Lake.....	1 nest and 5 eggs of migrant shrike
Dr. G. H. Luedtke, Fairmont.....	2 photographs
Mrs. F. D. Patterson, South St. Paul...	1 turkey vulture; alive
Miss Florence Sargent, Minneapolis.....	1 prairie chicken; in flesh
Mr. John Schuster, Dalton.....	2 cottontail rabbits; in flesh
Mr. E. W. Stafford, St. Paul.....	1 Florida gallinule; in flesh
Dr. Arthur C. Strachauer, Minneapolis...	1 bluebird's nest and 4 eggs
Mr. T. Surber, St. Paul.....	1 coot, partial albino; in flesh
Mr. Burton Thayer, St. Anthony Park...	1 short-tailed shrew and 1 bittern
Miss Margaret Wentling, St. Paul.....	1 nest of ruby-throated humming bird
Mr. H. J. Jager, Owatonna.....	6 young snow geese; in flesh
Mrs. C. E. Bloomberg, Minneapolis.....	1 indigo bunting; in flesh
Mr. Frank Blair, Mound.....	1 long-tailed weasel; in flesh
Mrs. J. C. Hvoslef, Lanesboro.....	A small collection of birds' eggs collected by the late Dr. J. C. Hvoslef; a beaver cutting collected by Dr. Hvoslef on the Root River below Lanesboro in 1877

## BY MUSEUM FIELD WORK

Mr. Jenness Richardson, collector.....	32 bird skins, 2 small mammal skins (A large amount of material collected in June this year will have to be listed next year.)
T. S. Roberts and William Kilgore, collectors.....	1 nest of wood thrush containing 6 cowbird's eggs and two wood thrush's eggs; 1 nest of cliff swallow

*Co-operation.*—Co-operation with all the other departments of the University that can be aided in any way without seriously disarranging equipment or service and with outside institutions and organizations is the policy and desire of the museum.

The outside lecture work by the staff of the museum comes properly under this head and in addition to this the following statement of "Museum material loaned" will show to what extent the educational resources of the museum have been shared with others during the past year.

Six of the portable bird groups have been loaned to the Northrop Collegiate School and two to the St. Paul Public Library during the year, this being the initial movement in the circulation of these exhibits. Three of the small groups were exhibited, provided with appropriate labels calling attention to the museum, in the window of the Wells-Dickey Company on a busy downtown thoroughfare where they were seen and examined by a large number of people. Arrangements for loaning the groups to the public schools have not yet been completed.

A series of 32 bird skins were loaned to the Carnegie Museum, Pittsburgh.

The Minnesota State Forestry Department was allowed to have slides made from a number of our negatives for use in their school lectures.

Mr. Kilgore has put on sets of slides 9 times and motion picture films 23 times for the first year zoology classes at the request of the lecturers.

Our motion picture projectors have been used frequently with the aid of Mr. Kilgore for reviewing or testing film belonging to other departments of the University.

Motion picture reels have been loaned to the Field Museum, Chicago; Massachusetts Audubon Society, Boston; Inland Bird Banding Society, Nashville, Tenn.; Waukegan High School, Illinois; and several times to the Minnesota Chapter of the Isaac Walton League.

Mr. Kilgore has continued his services to the Minneapolis Boy Scout organization as examiner for the bird study badge. Thirty-seven boys have been examined during the year. The boys come to the museum by appointment, present their papers and lists, and are put through a practical test in the bird study room.

*Photography.*—Seven hundred forty feet of motion picture positive have been printed from negative taken last year. No new motion picture negative has been taken the past year. Over 200 still negatives have been added, 187 of which have been filed and indexed bringing the indexed collection up to 3,656. One hundred fourteen lantern slides have been added. This collection now numbers over 2,000. It is indexed and the slides are readily accessible for use at any time. A great variety of subjects are covered. Many of the slides are colored.

Mention may here be made of a mounted collection of photographs and other illustrations referred to in a former report. These files now contain a classified and indexed collection numbering 3,624 pictures which can be consulted and made use of by anyone interested. The pictures are chiefly birds, mammals, flowers, Minnesota landscapes, etc. It also furnishes a print index to the slide and negative collections.

*Publications.*—Other than the regular bi-monthly seasonal report, gleaned from the museum records and furnished to each issue of *Bird-Lore*, there have been no publications issued by the museum. The separate issue of the annual report to the president has been postponed for the last two years on account of lack of funds. Absolutely necessary museum equipment has absorbed the appropriations available.

*Correspondence.*—This feature of the museum work is steadily increasing and occupies a considerable part of the time of both the director and curator. In addition to answering a large number of inquiries covering a wide range of subjects, all the important information contained in letters and lists (the latter on blanks furnished by the museum) is transcribed and filed in its appropriate place in our natural history record files. This entails much careful labor which cannot be left to an inexperienced person but it is the only way in which this information can be permanently preserved and made readily available when needed for reference or in the preparation of articles. During the year the great accumulation of bird records, running back over forty years and containing about all that is known in regard to the ornithology of Minnesota, has been transferred from an old, obsolete filing system to a new indexed steel filing case in which the material relating to each species is assembled in a single large

expanding envelope. All these valuable records are here reasonably safe and can be consulted and added to with little effort or loss of time.

Certain correspondents of the museum have rendered such long continued and painstaking service in the collection of data relating to the natural history of the state that it seems fitting and courteous that their work should receive recognition by name in this connection, especially as they might appropriately be considered volunteer agents or associates of the museum. They are as follows:

Mr. Bernard Bailey, Elk River; Mr. Lester Badger, Minneapolis; Mr. and Mrs. Frank W. Commons, Minneapolis; Mr. M. E. Chamberlain, Montevideo; Mrs. J. A. Campbell, Ivanho; Mrs. A. E. Cook, Minneapolis; Mrs. Frances M. Davidson, Minneapolis; Dr. L. O. Dart, Minneapolis; Miss Mabel Densmore, Red Wing; Mr. J. M. Eheim, Hutchinson; Mr. and Mrs. O. W. Frost, Cloquet; Mr. P. O. Fryklund, Roseau; Mr. Frank Gillis, Anoka; Mrs. Roy Hodson, Anoka; Mrs. C. F. Keyes, Minneapolis; Miss Olga Lakela, Fairmont; Dr. J. H. Leudtke, Fairmont; Mr. L. L. Lofstrom, Cambridge; Miss Elizabeth Morse, Minneapolis; Miss Mary Mills, Preston; Mr. O. J. Murie, Moorhead; Mr. Alfred Peterson, Pipestone; Mr. A. C. Rosenwinkel, St. Paul; Miss Rose Smith, Winona; Mr. E. D. Swedenborg, Minneapolis; Mr. Thaddeus Surber, St. Paul; Mr. S. C. Swanson, Cannon Falls; Mrs. J. A. Thabes, Brainerd; Mr. Burton W. Thayer, St. Paul; Miss Almira Torgerson, Fosston; Miss Mary Tillisch, Minneapolis; Mrs. Judson L. Wicks, Minneapolis; Mrs. Phelps Wyman, Milwaukee, formerly Minneapolis. The members of the Minneapolis Audubon Society collectively and individually have generously contributed all their bird records for our files. There are a number of other correspondents not on the above list who have recently tendered their assistance and who are sending in occasional contributions.

*Publicity.*—A museum designed for the general public and whose development, if not existence, is due in large part to private donations of money and material should be advertised in all legitimate ways in order to make itself known and receive the attention that justifies the effort that has been expended upon it. There is little excuse for such an institution unless it be well patronized. The need and appreciation have been well demonstrated on a large scale in other cities. That such need and appreciation exist also in a community like this goes without saying. Such is the argument of certain large donors to our museum who feel that we have been rather apathetic in calling wide-spread attention to the museum. This is undoubtedly true but the management has hesitated under present conditions to adopt a policy of greater publicity through the public press for the reason that a considerable influx of visitors on week days would seriously interfere with the regular class activities that occupy so much of the building. Such a plan of advertising cannot be adopted fully and satisfactorily until the museum is housed in a separate building where it can be conducted along its own special and peculiar lines. It should have a service department of its own and be free to open its doors at all times and especially on the days and occasions when the greatest number of people



are at liberty to visit its halls. This is perhaps the strongest argument in favor of separate, independent quarters for the museum. Let us hope that in some way this may be accomplished in the not too distant future.

During the past year both Minneapolis and St. Paul newspapers have published of their own volition illustrated articles describing the museum and both the *Alumni Weekly* and the *University Chats* have devoted considerable space to the museum. But still it is not widely known and, strange to say, there are many even on the campus who express surprise when they happen accidentally to wander into the building.

*Course in ornithology.*—For the tenth consecutive year the director gave the six-month course in bird study offered by the Department of Animal Biology. The class exceeded by two the prescribed limit of ten. Mr. Kilgore assisted to a considerable extent in the laboratory work of the winter quarter and was indispensable in the field work of the spring quarter. Perhaps it may be permitted to suggest that this course be given under the auspices of the museum instead of under the Department of Animal Biology as the instruction is given entirely by the staff of the museum and the materials used are from the museum collections. As the Department of Animal Biology and the museum are now entirely distinct it seems only right that the museum should receive full credit for the work.

#### FIELD WORK

Through an oversight, mention of the following field work was omitted from the last report: Mr. Richardson was in the field in Isanti County on March 28, 1924, and from May 4 to 24 and again from June 5 to 25, 1924, collecting material for the museum to be used largely in the small groups. Specimens and accessories for the ruffed grouse and dove groups were also secured at this time. In all, 146 bird skins, 15 mammal skins, a number of nests and eggs, photographs, and the accessories for most of the 19 groups constructed the past year were obtained on these trips.

At the close of the last fiscal year the director, Mr. Kilgore, and Mr. Huff, of the Department of Botany, were in the west central part of the state making a survey of the wild life conditions in the prairie regions of the state. The work centered in Grant and Lac qui Parle counties but several other counties were included in the investigation, chiefly those bordering on, or close to, the western boundary of the state. About 1,000 miles were covered in the itinerary, the trip being made in the director's automobile. Much information of value in the museum records, about 1,800 feet of motion picture negative including good studies of the burrowing owl and marbled godwit, over 100 photographs, and a small number of specimens were secured. An account of this trip was published in one of the *Bird-Lore* articles.

June 20 to 23, inclusive, of the present year the director and Mr. Kilgore made a brief trip by auto to the Root River Valley in Fillmore County to make a preliminary inspection in view of future bird work in that region.

On June 4, 1925, Mr. Richardson accompanied by Mrs. Richardson as assistant left for the Turtle Lake country in North Dakota to collect material for a large bird group illustrative of the western "coteau" region

of Minnesota which is to be another gift to the museum by Mr. James Ford Bell. They are still absent at the time of preparing this report and the results of the trip will have to be included in the next report.

### FINANCES

*University Museum budget.*—The budget for maintenance and supplies allowed by the University for the past year was \$2,500. This was expended very largely for additional equipment and improvements that are in the nature of permanent assets. Some of the principal items are as follows: over two thirds of the expense of the construction of a projection booth in the upper lecture room; twelve small group cases and one large twin case; wiring in upper and lower halls for lighting small cases; reflectors for lighting small cases; printing labels for small cases including reserve stock; developing and printing motion picture film; making negatives and slides for lecture work; making enlargements for group backgrounds; additional equipment in taxidermist's shop; one four-drawer fireproof steel file with jackets and guide cards for filing museum records; two lantern slide files; one steel card index file; lecture programs, stationery, and general incidentals from storehouse required in conducting the office and work shops. The field trips have been comparatively inexpensive as a considerable part of the outlay has been provided from other sources.

*Small group fund.*—A second donation of \$1,000 was received during the year from Mrs. George Chase Christian, of Minneapolis, for continuing the construction of the portable school groups which have proved so satisfactory as museum exhibits aside from the loan feature. This important project could not have been developed to the present extent had it not been for the interest and generosity of Mrs. Christian.

On June 30, 1925, the unexpended balance in the Minneapolis Trust Company to the credit of this fund was \$302.03. The account is in the name of Thomas S. Roberts, trustee.

*General museum subscription fund.*—On July 1, 1924, Mr. James F. Bell increased his monthly contribution from \$50 to \$75. This regular and now long-continued monthly check from Mr. Bell has aided greatly in conducting the incidental affairs of the museum as the director is at liberty to expend the money as he thinks best.

#### STATEMENT OF MONEY RECEIVED

From Mr. J. F. Bell, monthly contribution of \$75.....	\$900.00
From Mr. W. O. Winston, for motion picture projectors.....	300.00
From Mr. J. F. Bell, for motion picture projector.....	150.00
From Mr. C. C. Bovey, for motion picture projector.....	100.00
Sale of photograph to <i>Nature Magazine</i> .....	2.00
	\$1,452.00

Balance in First National Bank of Minneapolis to the credit of Thomas S. Roberts on June 30, 1925, \$417.45.

Respectfully submitted,

THOMAS S. ROBERTS, *Director*

## THE UNIVERSITY LIBRARY

*To the President of the University:*

SIR: I respectfully submit the following report of the University Library for the academic year 1924-25.

The year has marked a transition in several respects. The most apparent feature has been the removal of the new library building. A second feature, no less important tho less apparent to the university community, has been the adoption of a revised policy for the general administration of the library. In view of these two changes, this report is, as a matter of historic record, somewhat more detailed than in the past few years, tho many details of considerable significance to librarians which appear in the reports submitted by the heads of the library departments to the university librarian are necessarily omitted here.

The moving of the library to the new library building was a continuous process from the first of January, 1924, when the library bindery was moved from the second floor of the Perine Building at 1411 University Avenue S.E., to August 29, when the last of the collection was taken from the Old Library. The time between January 1 and August 1 was mainly used in moving university publications, duplicates, and unpacked gifts, exchanges, and purchases to storage in the new building. Many attics, closed corridors, and other places in the Old Library and other buildings were emptied and the way cleared for rapid removal of the active collection later. Delay in completing certain details of the building postponed the main moving until July 30, when the "reserve books" were moved to their present quarters, where they became available for use at the beginning of the second Summer Session on July 31. By August 19, all library service was being given from the new building and by August 29 all the books, including most of the college, departmental, and seminar libraries, were in their approximate places on the shelves.

By the beginning of the fall quarter, September 29, the library was in complete service except for the inevitable minor adjustments which attend the beginning of every college year. At no time was the library service interrupted and a surprisingly small amount of inconvenience was caused either the faculty or students of the Summer Session. The chief causes contributing to this satisfactory state of affairs were the excellent team work of the library staff and of the moving squads furnished by the Department of Buildings and Grounds, the help of the contractor in completing unfinished parts of the building to fit in with the moving plans, and the almost uninterrupted good weather which marked the moving period. More than 300,000 volumes were moved in four weeks with very little damage, and practically no loss.

From the beginning of the plans of the building in 1920, the regents are said to have had in mind a policy of greater centralization of the library collection which for years had been scattered in many buildings

all over the campus. The causes for this have been discussed in previous reports, notably in that of Mr. J. T. Gerould in 1911-12. By direction of the regents the Library Committee of the University Senate and the university librarian prepared a plan for greater unification. This was adopted substantially as presented by the regents at their meeting of June 17, 1924 in the following resolution:

1. That hereafter no separate unit of the University Library be established or maintained outside the general library except with the official approval of the President and the Board of Regents.
2. That the University librarian be directed to make provision under his general control and supervision for the various units of the University Library in harmony with the previous recommendation and that he shall report to the President and the Board of Regents any modification of this policy which may seem necessary.
3. That, in order to enable more accurate records of University Library activities to be kept, reports shall be made to the University librarian, by those in charge of any unit of the University Library, of such matters as it may be necessary or desirable to include in any general or special report of the University librarian.

The following exceptions to the general rule of centralization, which were recommended in the Library Committee report, were, by this action of the regents put in force:

The libraries of the Law School, the Department of Agriculture, and the University High School, retained their autonomy and their separate budgets. The collections of the different Engineering departments were combined in a general Engineering library. The libraries of the schools of Chemistry and Mines and that in the Department of Geology were left in their old status pending a further investigation regarding the most economical and efficient method of administering them.

The departmental collections in Astronomy, Physics, and Mathematics (which logically belong together) have also been left in their old quarters because of lack of suitable facilities for supervision in the new building. The final solution in regard to these has not yet been reached.

The most notable consolidation was that of the collections of the Medical School, the departments of Botany and Animal Biology, the College of Dentistry, and portions of the library of the School of Pharmacy in a general Biological-Medical library in the new building. A smaller, but important centralization was that of the former classroom and seminar collections in literature and philology, history, economics, and sociology in four suites of rooms reserved for the use of the faculty and advanced students of those general subjects. Objections are still heard occasionally from members of the faculty who prefer the old plan by which many portions of the library became virtually private office collections, but in the main, the new plan has met with the approval of most of the faculty and the students concerned. Greater improvement is possible and this will, it is hoped, still further prove the general wisdom of greater concentration of resources.

In recognition of the need of office and laboratory use of certain types of books the University Senate unanimously passed the following

resolution prepared by the university librarian and approved both by the Library Committee and the Administrative Committee of the Senate.

Books, periodicals, maps, and similar material returned in or lent to colleges or departments outside the general library of the University or its approved branches shall be confined to such as are in constant use in the daily work of the college or department. The cost of any and all replacements of these books due to loss or misuse shall be charged against the general supply funds of the college or department to which they are lent or in which they are retained.

So far, this resolution has been elastic enough to meet all real needs without any violation of the spirit of the regents' rules.

It is not too much to say that the new building has begun a new era in the library service of the University. Detailed descriptions of the building have appeared in local newspapers, in the *Library Journal* (December 1, 1924), *Public Libraries* (December, 1924), and the *Minnesota Alumni Weekly* (October 30, 1924) and the special booklet issued for the official dedication of the building, October 31, 1924. These are easily available and no lengthy description need be given here.

A number of minor adjustments have been necessary and some of the major equipment is not yet in entirely satisfactory shape but, on the whole, the building has been more satisfactory and workable than is usually the case. The beauty and dignity which characterize it seem to have lessened the disorder which often was so apparent and so unavoidable in our old, crowded quarters. There have been some acts of inexcusable vandalism, but most of the student body has given active aid in keeping the entire building clean and attractive. The electric automatic public elevator and the reserve reading room have been operated without any systematic supervision from the library staff and both have so far been unusually successful experiments in student self-government. The complaints in regard to service have been fewer than in any previous year of the present university librarian's service and the unsolicited approval, on the part of faculty and student, of staff service, is more frequent.

Through the constant help of the comptroller and the Purchasing Department it has been possible to keep the total cost of equipment well within the limit of the initial appropriation for this service. Everything possible in the way of library equipment in the Old Library and the discontinued seminar and departmental libraries has been saved, repaired, and refinished and put into active service in the new building.

As the most conspicuous example on the campus of a building in which an attempt at artistic effect has been combined with utility, the new library has attracted large numbers of visitors from the state and elsewhere. As one of the latest examples of a modern university library building, it has stimulated a great deal of correspondence from librarians, college and university officials, and others interested in new library buildings or in modification of old ones. There has been a constant request for the loan of the plans and for other data.

An outstanding feature of the year was the presentation to the University of very elaborate equipment and a selected collection of books

(aggregating about 3,400 by the end of the academic year) for the Arthur Upson Room. This is a memorial, from a donor who is officially anonymous, to a brilliant young poet, an alumnus and a member of the English Department of the University, who died in 1908. The room is exclusively for private reading. No notebooks, textbooks or newspapers, or conversation are permitted in it. It has attracted more attention from visitors than any other part of the library and it is unquestionably one of the finest rooms devoted to its special purpose which is to be found in any library open to public use. Altho lack of funds has prevented its being open for more than a part of the day, the attendance, since its formal opening on February 21, 1925, has been most gratifying. If one may judge from the expressions of opinion from faculty and students alike, it is filling a need which was no less real and acute altho never so well recognized before.

The increase in the use of the library has been marked. This is not clearly shown in the statistics. Greater numbers of books have been placed on open shelves in the seminar libraries and in the general reading room. This has very naturally reduced the recorded circulation altho it has improved service to the students and saved money by reducing the amount of assistance necessary.

Attention should be called to the generous provision for space for readers as compared with similar provisions at some other universities. The main reading room in the Old Library Building has been retained as a study hall for the students who want a place to study textbooks, write up notebooks, and do other school work during vacant periods. This is entirely unsupervised, but the self-discipline has so far been excellent. The combined present seating capacity of the reading rooms and study rooms in the General Library, college libraries, departmental reading rooms, and study rooms is nearly 2,400. From 200 to 300 more seats can easily be added when required.

*Staff.*—The need of an increase in staff when a much larger building was to be occupied was apparent to everybody concerned. Unsolicited estimates of visiting librarians and university administrators usually agreed that an increase of fifty per cent in the service force was inevitable. It is all the more gratifying in the face of these estimates to be able to record an actual increase of only twenty-seven per cent in the library payroll (exclusive of the bindery, which is on a self-sustaining basis). This actual saving over reasonable estimates is due to several things, among them the adaptability of the building to service needs and the increased efficiency of the staff due both to better working conditions and to their longer term of service. The faculty has in general materially assisted by a greater degree of co-operation with the library staff than in any previous year of the present university librarian's term of service.

The number of staff changes during the year has been encouragingly small. The only changes above the grade of assistant were three resignations in the catalog department.

*Further needs.*—(a) Staff: The library now has a building adequate for its immediate needs. The staff has been increased sufficiently to improve materially the library service. The extra appropriation for books in 1923-24 and special appropriations in 1924-25 aggregating \$4,950 have enabled us to fill many gaps in our collection. Nevertheless, like all growing organisms or institutions, the library shows a healthy growth in needing still more facilities. Several phases of the service, notably in the graduate seminar collections, need better organization. The catalog department needs more help to enable it to keep pace with the increased receipts of new books. It is small comfort to the student and faculty member who wants immediate access to uncataloged and, consequently, more or less unavailable material, to be told that similar conditions in other universities are worse. In the very near future more catalogers will be greatly needed. Considerable improvement in the seminar service is possible with very slight additional cost.

(b) Books and Assigned Reading: Another need, growing directly from the rapid expansion of the student body, is increased funds for books. The enormous amount of assigned reading for single classes as large as the entire University in its early days calls for expenditures for duplicate copies, for rebinding, and for replacement on a scale unthought of even a decade ago. Over the demand for such expenditures the university librarian and the library staff have little control. Even the active aid of the Library Committee of the University Senate can do little but support the library in refusing to honor all unnecessary orders for such material. Whether either the library or the Library Committee should logically exercise such a censorship over educational methods and policies is theoretically debatable. Under present conditions it is practically unavoidable. Certain colleges and instructors in several specific subjects spend almost their entire allotments in extensive duplication of recent pamphlets, copies of current periodicals, and new textbooks. It is impossible usually to buy these at advantageous discounts and within a year or two at most the vast majority of them are obsolete or worn out. Keeping them in repair takes much of the time of the bindery staff and a large proportion of the binding appropriation. It is extremely desirable that an investigation of the whole question of assigned reading in its financial and administrative aspects be made by a body of competent and disinterested persons. The question of periodicals is scarcely less acute. They are appearing in ever increasing numbers. Many of them are of unquestioned merit. Even more are of too much real or potential value to be disregarded. Their subscription costs are prone to increase. Binding them is a steady drain on the time and money of the bindery. It is impossible to increase their number without decreasing the number of books bought, for book prices are also steadily rising. The choice between books and periodicals, in the face of a static or even slowly increasing book fund, is inevitable. Many departments will not make the choice, but insist on eating their cake and having it by demanding an increase in both books and periodicals. For these reasons, the increase in book funds which will probably be available in 1925-26 is of inestimable help to the entire University.

Inasmuch as this is not a prophecy, but a statement of fact, it is not necessary to discuss the various expedients proposed, but simply to state that these have been proposed from time to time (1) library fees imposed either on the student body in general or on classes whose use of books is disproportionately large; (2) requiring students to buy more personal textbooks; (3) the preparation by the faculty of source books or case books in place of the present system of "reference lists"; (4) charging books bought expressly for class use against the general funds of the department wanting them. There is merit in each of these suggestions, but there are marked objections as well to each and the matter should be carefully studied before any general university policy in regard to it is adopted.

The cost of books, periodicals, and other printed matter is generally rising. The stabilization of foreign exchanges has been attended by no substantial lowering in list prices. Both of these seriously affect the purchasing power of the book funds. The faculty, especially the departmental representatives who sign book orders, have been of great assistance in encouraging greater care in selection and in discouraging useless duplication and the purchase of new books for casual examination.

(c) Summer Session: The increase in the summer school enrolment has brought a problem which promises to become increasingly serious. The students work at high tension. Many are accustomed to wield authority, not to submit to rules. Their problems, due to their greater average maturity, tend to be intensely personal and their reaction to administrative procedure tends also to be personal. During the weeks of the Summer Session all the resources of the library in certain lines are inadequate to meet the demand, and the wear and tear on the books is abnormal. Frequently there is no adequate information given the library staff as to what is really wanted by the faculty nor is care taken to learn whether the books assigned are in the library. There is no time between the opening and closing of the regular year and the Summer Session to replace or rehabilitate worn-out or missing books. A period of criticism and discontent, varying in length and intensity with the closeness of faculty co-operation, almost always results. Inasmuch as the entire library staff is on a twelve months' service basis, there is no period in the entire year when satisfactory vacation adjustments can be made, as is possible with the instructional staff. In the interests of the summer session students, a more careful study of the administrative aspects of the question should be made as soon as practicable. There is reason to believe that the service they will get in the summer of 1925 will be greatly improved over that of 1924, but they are entitled to the very best it is possible to give.

(d) Extension Students: Due to the lack of duplicates and the pressure of "assigned reading," it has been impossible to care adequately for the book needs of extension students. Many of the causes discussed under Books and Assigned Reading apply, *mutatis mutandis*, here. The University of Michigan offers extension courses only when adequate library facilities



can be provided. Such a provision is doubtless impracticable here at present, but it surely is a desirable goal.

*Sale of publications.*—The library acts as a sales department for all university publications. In the case of two recent issues, arrangements have been made for individual sales through the University Storehouse and for sales in lots to retail booksellers. During the year, 2,048 copies, including 20 distinct series, were sold. The total receipts were \$2,974.18. The total receipts went to the departments issuing the publications while all the overhead costs, including postage, service, materials, etc., were charged against the library supply. This arrangement seems very satisfactory to all the departments except the library. The amount of expense and of time consumed is increasing so rapidly that, in order to get really necessary office work for the library done, it will soon be impossible to take care of this outside service except in odds and ends of relatively unoccupied time. The establishment of a university press should bring a better, more economical arrangement. Under present conditions there is inevitable conflict of jurisdiction as to price, precedence in taking care of mailing lists, and the employment of higher paid service than should be necessary for the essentially clerical work.

*Department reports.*—Greatly condensed summaries of the reports of the department heads follow:

(a) Reference Department: (Ina Ten Eyck Firkins, reference librarian). An increase in the staff of this department, which includes the reference and periodical rooms, makes it possible for both rooms to be open from 8:00 a.m. to 10:00 p.m., under the supervision of competent, trained assistants. During the busiest hours an assistant is on duty near the card catalog to help students in its use. It has also been possible to complete some special bibliographical work in checking and indexing special collections.

In the periodical room, 58,009 magazines and periodicals were issued from September 2, 1924 (when it was first fully open) to June 19, 1925, the end of the regular academic year. This does not include the unrecorded use of periodicals accessible on reading room tables. Practically all magazines are now issued on application at the periodical desk. Instead of large numbers of current periodicals missing under the old plan of open stacks and racks, only two magazines have been lost during the regular year. "Mutilation of bound volumes and current magazines, however, continues; whole articles are torn out not infrequently. This and the purloining of reference books can be stopped only through the development of a different attitude of mind in the student body; no regulations or restrictions can control the indifferent and irresponsible student."

The interlibrary loan system is now in charge of this department. From September 1, 1924, to June 20, 1925, 294 books were borrowed and 273 volumes lent. One hundred sixty-one books asked for could either not be located or obtained. The manuscript theses are now kept in two small rooms at the rear of the general reading room and their care and use are directly under the control of the reference department.

(b) Circulation Department: (Helen M. Smith, head). There was an increase of about 20 per cent in the number of books used in the reference room and a 20 per cent increase in the number of "two-week" books issued. The reserve department use decreased about 10 per cent and a slight decrease in "overnight" use is also shown.

This shift in circulation may be attributed to three reasons: (1) added facilities of the New Library Building; (2) increased use of books in the various seminars, and (3) a difference in the assignments by the faculty. A changed system of issuing reserve books has practically eliminated the use of fictitious names. A year ago there were over one hundred books unaccounted for, due to fictitious names. At the end of this present year there are only six which cannot be traced. A few statistics follow:

Books used in reading rooms.....	76,074
Two-week books .....	79,751
Overnight books .....	18,322
Reserve books .....	265,785
Extension loans .....	726
	<hr/>
Total circulation, 1924-25 .....	440,658
Total circulation, 1923-24 .....	434,017
	<hr/>
Increase in 1924-25 .....	6,641

The Summer Session (first session) showed an increased use over the previous year of 3,458 volumes out of a total of 50,798, while the second session showed a decrease of 3,465 from the total for 1923 of 14,568.

The college libraries of Mines, Engineering, Chemistry, and the Biological-Medical library had a recorded circulation of 22,469. Most of these are open shelf collections so the recorded circulation is only partially indicative of use. The records of use of the Law School and the Department of Agriculture libraries are reported directly to their respective deans and should be found in their reports.

(c) Catalog Department: (Edna L. Goss, head). The three main features of the year were the transfer of the public catalog, the depository catalog, and the uncataloged books while the library was open to the public. The new catalog cases (1,440 trays) have permitted ample space for expansion for several years. The transfer of over 600,000 cards from the old catalog to the new was completed in two days. The new quarters are commodious and convenient. "We still consider it a drawback to have the catalog department on another floor from the catalog and the reference department, but the difficulty is obviated as much as possible by the stairway and elevator landing from the corridor directly across from the catalog room to the catalog on the floor above."

Considerable progress has been made in changing call numbers for books previously kept in seminar rooms and in the several special collections now consolidated in the Biological-Medical library.

The number of volumes cataloged during the year was about 15,000. This is an excellent showing when due consideration is given to the time

consumed in moving, in preparing and checking copy for the *Check List of Serials in the Biological and Allied Sciences* for the Graduate School, and the *National Union List of Serials*. Two cases of illness of several months each also affected the output.

(d) Order Department: (Harold Russell, head). Twenty thousand four hundred fifty-four volumes were added to the library by July 1. This is greater than any previous report by some 5,000 volumes. There still remain many books to be accessioned as soon as it seems desirable to send them to the catalog department. Possibly during the coming year these can be accessioned and recorded even tho the books themselves may not be cataloged for some time.

The chief development in the order department this year has been in the care of exchanges, gifts, and serial records in general. As the exchange records get into proper shape an increasing amount of valuable material is obtained from other institutions, much of it books ordinarily purchased for cash. The mailing lists have been revised. Many institutions offering no return or not making any considerable use of university publications have been dropped with their own consent. Many of these have offered to purchase later publications which they find of use. Many other institutions retained on the exchange list are sending us more and better material as a result of the correspondence.

The total expenditures from the book fund were:

	Books	Periodicals	Total
General Library .....	\$33,232.89	\$ 9,622.75	\$42,855.64
Agriculture .....	2,149.11	1,924.46	4,073.57
Law .....	5,012.87	321.10	5,333.97
Crookston .....	323.78	183.43	507.21
Morris .....	203.68	156.84	360.52
	<hr/>	<hr/>	<hr/>
	\$40,922.33	\$12,208.58	\$53,130.91

These figures may be slightly changed through late discounts and transportation adjustments.

The University Library now includes about 445,454 accessioned volumes, including the Agriculture Library of 36,100 volumes, the Law Library of 40,250 volumes. To these should be added the Northwest School and Station Library at Crookston of 2,218 volumes and the West Central School and Station Library at Morris of 2,561 volumes.

A very large part of the book expenditures was for continuations of sets or serials. Like periodicals, these are virtually fixed charges while the set or series is in progress and, tho essential, they seriously affect the amount available for current and out-of-print books as well as the promptness of binding service. For example, the Law Library spent \$2,069.34 for continuations and only \$2,943.03 for books other than continuations. The large number of statutes and reports needed by the Law School necessarily made their average high, but it is a good, tho extreme, illustration of the inconvenience already resulting from the growing practice of publishing important books in numerous parts or in multiple volume sets. A tendency on the part of many departments to cut down the number of duplicate

copies for reserve reading should be noted, tho in several departments there is a noticeable increase in the purchase of ephemeral duplicates.

*Gifts.*—More than the usual number of gifts has been received. Six thousand six hundred fifty-eight pieces have been acknowledged, of which 3,375 have been accessioned and placed in the library. Most of the outstanding gifts have been noted in the regents' minutes. The following are worthy of special note:

The Arthur Upson Room collection of 3,357 volumes of general literature; a collection of 140 volumes of philological interest given by Marshall and Arthur T. Hertig from the library of their father; about 200 volumes on Latin literature and language from the library of the late Dr. John E. Granrud; 55 volumes in chemistry from Dr. Katherine and Dr. Lillian Nye; 55 Spanish, French, and German books from Mrs. George C. Christian; a second gift of \$50 for books in Jewish history and literature from the B'nai Brith of St. Paul; and 46 miscellaneous books from Dr. Folwell. The Sedgwick collection of about 500 volumes on pediatrics, which has been on deposit in the Medical School for many years, was purchased by friends of Dr. Sedgwick and presented to the University Library. The Minnesota Historical Society transferred to the University Library 1,159 bound and unbound volumes of non-Minnesota newspapers. These should be of great historical interest.

*Binding.*—The university bindery bound 2,561 volumes for the General Library and 1,141 volumes for college and departmental libraries and other departments of the University. Thirteen hundred seventy-four volumes were bound by outside binderies. The total cost for binding the 5,076 volumes was \$8,861.50. The actual work of the university bindery is not adequately represented by the number of volumes. Many of them were oversize, or included plates or maps or in other ways required special treatment (e.g., volumes of various sized records from the registrar's office), involving several times as much work as the more conventional volumes done outside. For example, over 40 per cent of all those bound in the university bindery were quartos or folios and nearly half of those sent to complete sets were half leather, which requires much longer than full buckram binding. A tendency on the part of some departments to abuse the privilege of "rush" orders, somewhat hampered the output. The many years of binding arrears have prevented the working of a smoothly running production program. As one instance, nearly 1,500 volumes of unbound periodicals, in addition to current volumes, need early attention. In spite of handicaps, some progress has been made. An anticipated increase in the bindery force next year should enable still greater progress to be made. The discontinuance of leather, wherever practicable, in favor of full buckram, should mean greater output at less expense next year.

Outside the General Library the binding expenditures were: Agriculture, \$1,038.98; Law, \$1,342.19; Crookston, \$36.19; Morris, \$71.05, a total of \$2,488.51. This, added to the general library amount gives a grand total of \$11,350.01 expended for binding during the year. At every one of the outside branches there is a reported accumulation of material which must

soon be bound if it is to be preserved. In most university library reports, the book purchases, periodical costs, and binding are combined. On this basis, the University of Minnesota should be credited with a grand total expenditure of \$64,477.76 for building up and maintaining its library collections. This apparent increase over the figures of previous years is partly due to the regents' rule requiring better reports.

*Summary.*—In general, the year has been one of marked progress. The reorganization of the service and the personal and professional adjustments incident to it have gone farther and faster than could have been conservatively expected. A list of the staff, who deserve special mention for their willingness to make the service as good as possible would include virtually all on the regular payroll as well as many of the student helpers. The faculty has been generous in commendation and, for the most part, constructive in criticism as well as adaptable to new conditions. The Library Committee of the University Senate under the chairmanship of Dean Ford and Dr. C. M. Jackson (acting in Dean Ford's absence) has been of the greatest service in helping shape new library policies.

Respectfully submitted,

FRANK K. WALTER, *University Librarian*

## THE INTERFRATERNITY COUNCIL

*To the President of the University:*

SIR: I herewith submit my report as president of the Interfraternity Council for the year ending June 30, 1925.

*Membership.*—There are now thirty academic fraternities represented in the council, Chi Sigma Phi, a local, having been admitted during the past year.

*Scholarship.*—The following table, compiled by the dean of student affairs, gives the relative scholastic standing of the fraternities in the council for the year 1923-24:

Phi Delta Theta.....	1.253	Sphinx .....	0.963
Chi Psi .....	1.229	Zeta Psi .....	0.950
Acacia .....	1.226	Theta Xi .....	0.949
Sigma Phi Epsilon.....	1.118	Kappa Sigma .....	0.922
Chi Delta Xi.....	1.114	Sigma Nu .....	0.912
Phi Gamma Delta .....	1.094	Theta Delta Chi.....	0.880
Alpha Tau Omega.....	1.087	Alpha Sigma Phi .....	0.844
Beta Theta Pi.....	1.084	Alpha Delta Phi .....	0.841
Pi Kappa Alpha.....	1.068	Phi Kappa Sigma.....	0.813
Delta Chi .....	1.056	Psi Upsilon .....	0.812
Delta Upsilon .....	1.025	Tau Kappa Epsilon.....	0.790
Theta Chi .....	1.016	Delta Tau Delta .....	0.781
Phi Kappa Psi .....	1.014	Sigma Chi .....	0.734
Delta Kappa Epsilon.....	1.011	Phi Sigma Kappa.....	0.612
Sigma Alpha Epsilon.....	1.005		

The average scholastic standing of the fraternity men was 0.981, while that of all the men in the University was 1.046.

*Deferred rushing.*—This was the first year that the fraternities operated under the "deferred rushing" rules which were adopted in the spring of 1924 and which are printed on pages 230-31 of your report for the year 1923-24.

There were no cases of violation of the word or spirit of the rules reported to the president of the council nor has there been any apparent desire to change them. Since the freshman cannot be pledged by any fraternity before the tenth day of his second quarter in residence, the fraternities now have an opportunity of obtaining the grades of their prospective members before pledging; and consequently, if they so desire, they can choose only those students who have made a satisfactory scholastic record. Some of the fraternities made the most of this opportunity, for the scholastic attainment of the men pledged was considerably higher this year than for the three preceding years as the following table indicates.

## AVERAGE SCHOLASTIC ATTAINMENT OF FRESHMEN, FALL QUARTER

1921-22 .....	0.605
1922-23 .....	0.407
1923-24 .....	0.584
1924-25 .....	0.873*

\* First year deferred rushing.

*Fraternity parties.*—The following rule relative to fraternity parties was passed by the council: "All parties except spring formals must be held on Friday or Saturday nights or nights before a holiday, and all informal parties must close not later than one a.m."

Respectfully submitted,

W. F. HOLMAN, *President*

## FIELD SECRETARY AND GENERAL ALUMNI ASSOCIATION

*To the President of the University:*

SIR: I submit herewith the report of the field secretary and that of the secretary of the General Alumni Association. The work of these two officers blends at so many points that in the interest of economy of space it seems best to combine them.

*The stadium-auditorium fund.*—The total fund subscribed was \$1,728,644.84. The contract of the stadium was let in the spring of 1924 and ground was broken on March 6 in the midst of a driving snow storm. It seemed impossible that the structure would be ready for the opening game with North Dakota, October 4. But the incredible happened. The work instead of lagging as is so frequently the case in contracts of this size, kept gaining momentum until it was thirty days ahead of schedule. The result was that all the games of the 1924 season were played in the new structure. The first use was made of the stadium for the freshman convocation, October 2. During the year it has been used for concerts, track meets, convocations, and commencement, besides the daily use during the winter of the indoor space for locker rooms, showers, wrestling, boxing, track work, etc.

The contract for the structure was \$577,000; additional expenses for land, architect's fees, bonds, etc. brought the total cost to \$693,181.54. By January, 1925, the stadium was entirely paid for, and the Greater University Corporation turned its attention to plans looking towards the construction of the Northrop Memorial Auditorium. At the close of the fiscal year, July 1, 1925, there was \$54,669.73 available. It is estimated that by January, 1926, there will be approximately \$600,000 available. The building committee has been requested to proceed at once with negotiations looking toward the securing of plans for the new structure and the determination of costs. It is estimated that there will ultimately be \$1,000,000 available for the auditorium and it is the belief of members of the board that additional funds will have to be obtained in order to secure the kind of structure desired.

*Alumni units.*—New organizations have been established at Lake Minnetonka and St. Louis, Missouri, and enthusiastic meetings at these places have been reported. One of the most active of the groups so far as meetings are concerned, is the Minnetonka unit made up of several sections in that territory. Since their organization a year ago two meetings have been held at Excelsior, and one each at Hopkins, Glen Lake, and Mound.

Meetings at the following points have been held during the year: Chicago, Cleveland, Crookston, Detroit, Duluth, Minnetonka, Minneapolis, Omaha, Oregon, Rochester, Schenectady, St. Louis, St. Paul, St. Paul Alumnae, Washington, D. C., Willmar, New York City, Milwaukee.



*Alumni membership.*—A proposed change in the constitution which will be submitted for ballot in the spring is the unanimous recommendation of the Board of Directors that all persons who have attended the University shall be eligible to active membership in the association. This policy is in vogue in practically all of the state institutions as well as other universities and it is hoped that the amendment will carry when presented for vote.

*Alumni fund.*—Perhaps the most important single feature of the year's program is the development of a plan which will give the alumni and former students opportunity to make some gift each year to the University. The committee, consisting of David Bronson, Law '20, Robert Thompson, '95, and the secretary, has been asked to work out the details, the idea having been previously endorsed by the Board of Directors. It is not intended that the plan shall begin to operate until the expiration of the period for the payment of the stadium-auditorium pledges, nor will it apply to those who in the first four or five years following their graduation are closing up their life membership and *Weekly* subscription pledges. It is contemplated that the gifts under this plan shall be in the nature of cash or securities which will leave it open to each individual to do what he can each year without undue urging; in other words, a large number of free will offerings in moderate sums instead of a few of large denominations. The use to be made of such funds would be determined by the board in charge. The committee received bulletins and had correspondence with a number of universities having such funds and is convinced that the effectiveness of the alumni organizations of those institutions is due largely to the successful operation of this particular plan of securing alumni co-operation in the on-going of their universities.

*Student interest in Alumni Association.*—One of the most encouraging and stimulating features of alumni work is the interest taken by the student body, especially members of the senior class, in the Alumni Association. Instead of coming in contact with it abruptly at the close of the senior year, they have become acquainted with its magazine, its editor, and its secretary in a number of aspects of their university life. Through the Minnesota Union, through the Athletic Board, through the various university functions during the college year they meet members of the staff, work with them, advise with them, and get to know them. This makes the transition from studentship to alumnihood gradual and natural as it should be. The number of life memberships and life subscriptions each year from the senior class will not reach its maximum until the student pledges to the stadium-auditorium fund have been absolved. After that time it may be assumed I believe that anywhere from 500 to 700 graduates will align themselves with the Alumni Association and its work. It is not to be expected that this result will be reached until after June, 1927, as the members of that class are included among the subscribers to the auditorium fund.

Respectfully submitted,  
E. B. PIERCE, *Field Secretary of the University and  
Secretary of the General Alumni Association*

## THE UNIVERSITY HEALTH SERVICE

*To the President of the University:*

SIR: I have the honor to submit herewith the following report of the activities of the Students' Health Service for the year 1924-25.

*General statement.*—The purposes of the Students' Health Service are to reduce to a minimum the illness and the physical disability among the student body, to discover for students any physical defects which they may have, to assist them to overcome these defects and improve their general health, and to educate them by means of practical demonstrations as to what can be accomplished in the field of health conservation and disease prevention. In the year 1924-25, as in each previous year, definite progress toward this goal can be noted.

*Health education.*—The ideal opportunity for effective health education is presented when people become ill and seek medical attention. Most people, when they are well, listen only passively to discussions regarding health; but, when they are ill, they become most actively interested not only in recovering but also in preserving their health. In the University the Students' Health Service has a unique opportunity for such informal health education and as much attention as possible is devoted to this phase of the work. When more consultation rooms and a few additions to the staff can be provided much greater advantage can be taken of these opportunities.

*Professional staff.*—During the past year the professional staff of the Health Service consisted of eleven physicians on general medicine, five on full time and six on part time; three surgeons, part time; two eye, ear, nose, and throat specialists, part time; one specialist in tuberculosis, part time; one specialist in skin and genitourinary diseases, part time; one orthopedic surgeon, part time; one specialist in mental and nervous diseases, part time; one specialist in corrective exercises and gymnastics, part time; nine dentists, part time; one laboratory and X-ray technician, full time; one pharmacist, part time; ten nurses, full time; and three dental assistants, full time. This is a larger and more competent staff than we have ever before had and one which is able to provide for students the quality of medical service which the parents of students would desire for their children.

On various occasions during the year it was felt desirable to have the advice and consultation of members of the staff of the Medical School and University Hospital. Whenever requested, such advice and consultation was cheerfully given. The administration of the Students' Health Service wishes to acknowledge this service and to express appreciation of the co-operation and assistance which was rendered.

*Physical examinations.*—The periodic physical examinations which are required of all freshman men and of students who are taking part in athletics are done at the Students' Health Service; the medical and dental

staffs, in co-operation with the Department of Physical Education, performing the examinations. The physical examinations of women still are performed in the women's gymnasium but with the close co-operation which exists it is possible to carry out much the same type of examination as is given to the men.

Upon the completion of these examinations each student is advised of any physical defects which were discovered and later in the year the more serious defects are followed up to determine whether or not they have been corrected. Much is accomplished by this program but we will always fall far short of realizing the maximum benefits of physical examinations until each student in the University can have a health consultation and a physical examination every year. With more adequate quarters and a larger staff this will be possible.

*Medical service.*—The services of the staff at all times are available to students at the several health service dispensaries and hospitals. To these institutions any student may come for medical advice or care. The staff is ready also to make calls upon students at their rooms when necessary. Table I shows the services rendered at the four stations of the University.

TABLE I. SERVICES RENDERED TO STUDENTS

Location	Entrance Physical Examinations	Dental Services	Dispen- sary Visits*	House Calls	Hospi- tal Cases	Total Services	Hospital Days' Care
Main campus	3,171	10,547	63,059	365	560	79,524	1,954
Agricultural	252	28	5,939	8	126	7,024	895
Morris	192	8	1,340	0	46	1,398	214
Crookston	251	29	3,060	7	119	3,125	731
Total	3,866	10,612	73,398	380	851	91,071	3,794

\* Dental not included.

This table shows that the total number of services rendered was 91,071. The increase over the previous years is shown by the following comparison:

TABLE II. TOTAL NUMBER OF SERVICES RENDERED BY HEALTH SERVICE

1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25
17,347	32,639	43,205	58,246	60,463	68,481	91,071

*Dispensaries.*—Medical dispensaries exclusively for students are located on the main campus, on the agricultural campus, at Morris and at Crookston. These are made as homelike as possible and the medical and nursing staffs take a personal interest in each and every student. The dispensary on the main campus has one or more physicians in attendance at all hours of the day. On the agricultural campus a physician is in attendance several hours each day, while at Crookston and Morris a nurse

is in attendance at all times and a doctor is called when necessary. In connection with these dispensaries laboratory work is done, treatments are given, and prescriptions filled. At the pharmacy on the main campus over 8,000 prescriptions were filled during the year at an average cost to the student of a little less than thirteen cents.

These medical dispensaries can well be considered the front line of attack in our battle on disease. When the students come here upon the first appearance of symptoms, the possibilities of preventing the development of serious illnesses as well as of checking the spread of communicable diseases are greatly increased. For this reason the number of dispensary calls forms a good index as to the success of the service. The number of the visits on the main campus, which station gives the best general index of dispensary services, shows a progressive increase from year to year, the average number of calls per day during 1924-25 being over 200.

TABLE III. DISPENSARY VISITS—MAIN CAMPUS

1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25
12,689	21,053	28,223	29,785	35,654	43,035	63,059

*Hospitals.*—Infirmaries for students are maintained in close connection with the dispensaries. This is absolutely essential for the efficient administration of a students' health service, for when a patient is seen in the dispensary who should go to bed, it is necessary that it be easy to put him there. Early hospitalization minimizes the danger of communicable diseases spreading throughout the university community and it frequently prevents the development in the individual of serious complications from relatively insignificant primary infections. In order that this may always be practiced, there is a standing rule of the Health Service that any student with a temperature of 100° F. or more shall be hospitalized. The number of hospitalized cases during the past year was the lowest of any year since the Health Service was organized.

TABLE IV. HOSPITAL PATIENTS

Hospital	Boys	Girls	Total
Main campus .....	455	105	560
Agricultural campus .....	107	19	126
Morris .....	26	20	46
Crookston .....	86	33	119
Total .....	674	177	851

*Conditions treated.*—The diagnoses made in the various hospitals and dispensaries include a large variety of diseases but by far the largest group was made up of the acute infections, mostly respiratory. During the year there were four deaths; one from tuberculous meningitis, one from small-pox, one from acute rheumatic fever complicated by endocarditis, pericarditis, and pneumonia, and one from appendicitis complicated by general peritonitis. Some of the more serious conditions treated on the campus in Minneapolis and St. Paul were as follows:

TABLE V. DISEASES TREATED IN HOSPITALS ON MAIN AND AGRICULTURAL CAMPUSES

Appendicitis, without operation.....	24	Tonsillectomies .....	161
Appendicitis, with appendectomy.....	4	Submucous resections .....	51
Pneumonia .....	12	Measles .....	2
Diphtheria .....	3	Scarlet fever .....	11
Influenza .....	2	Mumps .....	18
Herniotomy .....	5	Chickenpox .....	1
Tuberculosis, active .....	3	Smallpox .....	4
Septicemia, streptococcic .....	2	Acute rheumatic fever.....	4

*Contagious diseases.*—On the campuses in Minneapolis, St. Paul, and Morris there were a few cases of various contagious diseases but none of them reached really epidemic proportions. At Crookston during the winter quarter there were rather severe epidemics of scarlet fever and of mumps.

*Smallpox.*—Since it is impossible to require the vaccination of students at the University of Minnesota, we were unable during the recent epidemic of smallpox to protect the students as thoroly as they should have been protected. However, every possible effort was made to encourage students to present themselves voluntarily for vaccination and, as a result, a large part of the student body was protected. Some, of course, were negligent and during the epidemic seven students contracted smallpox. This is an incidence rate of 0.7 per thousand, compared to 0.9 for St. Paul and 2.8 for Minneapolis over the same period of time. Three of the University students who contracted smallpox were cared for at home and four at the Health Service. There was one death in each group.

*Vaccinations.*—During the year, 7,729 vaccinations against smallpox were performed; 3,622 students received Schick tests to determine whether they were susceptible or immune to diphtheria; 268 were given Dick tests to determine susceptibility to scarlet fever; 470 were given toxin-antitoxin inoculations to produce a lasting immunity to diphtheria; and 268 were vaccinated against typhoid fever.

*Excuses for illness.*—A student who has been absent from classes on account of illness can obtain an excuse only by applying to the Health Service. This makes it possible to examine all students who have been ill and to exclude those who might be a source of danger to others or who for their own good should not be attending school. The excuses issued by the Health Service during the past year were for a total of 11,303 days. During the previous academic year they were for a total of 15,307 days.

*Mental hygiene.*—The work in mental hygiene was continued during the past year but the lack of personnel and adequate facilities made it impossible to accomplish as much as we had hoped.

*Dental Department.*—The Dental Department which is now three years old has had a very successful year. Two chairs in this department are assigned to dental prophylaxis and dental surgery and four to reparative work. Nine dentists are employed on part time; and one dental technician and two dental nurses on full time.

The advantages which this department offers to the students are (1) high class dental service on a cost basis; (2) a saving of time

because of work rapidly done and without the necessity of trips down town; (3) appointments made to suit the student's class schedules; and (4) a service of easy accessibility.

The use which the students have been making of this new department has been most encouraging. During the year 10,612 visits were made by students to this department for advice or treatment. The collection of bills also has been more satisfactory, the total collections for the year being in considerable excess of the disbursements. This will reduce materially the deficit which had accumulated during the first two years that the department operated.

*Laboratory and X-ray work.*—The laboratory work which is performed at the Health Service consists of chemical, pathological, and bacteriological tests which are required for medical diagnosis and treatment. The following is a report of the examinations made during the year:

Urinalyses .....	5,391
Nose and throat cultures (for diphtheria).....	316
Blood cell counts .....	497
Hemoglobin determinations .....	1,604
Widal tests (for typhoid).....	33
Sputum examinations .....	20
Bleeding and coagulation time determinations.....	222
Wasserman tests .....	50
Direct throat and eye smears.....	20
Feces examinations (direct or cultural).....	10
Gastric contents examined.....	38
Blood chemistry determinations.....	35
Basal metabolism tests.....	38
Blood cultures .....	10
Miscellaneous .....	40
<b>Total .....</b>	<b>8,324</b>

The small Roentgen ray outfit which was installed recently has been most valuable in our work. During the year X-ray pictures were taken of 868 dental patients and 511 medical and surgical patients. The work which required a larger machine was referred to the University Hospital, 321 cases being sent for diagnosis or treatment.

*Cost of service.*—The gross total and per capita costs in the two largest stations of the Health Service are shown in the following table:

TABLE VI. GROSS AND PER CAPITA COSTS

	Salaries	Supplies and Equipment	Total	Cost per Hospital Day
<b>A. Hospitals</b>				
Main campus .....	\$9,120.00	\$7,605.00	\$16,725.00	} \$6.75
Agricultural campus .....	1,502.00	1,002.00	2,504.00	
<b>B. Dispensaries</b>				
Main campus .....	\$26,513.00	\$11,300.00	\$37,813.00	} \$0.62
Agricultural campus .....	2,040.00	2,094.00	5,134.00	

This table shows a higher cost per hospital day and per dispensary visit than was shown last year.

*Sanitation.*—Swimming pools. The swimming pools have been examined regularly as to their bacterial content. At first, while the chlorine was being regulated, this was done twice a week; during the rest of the year, once each week.

*Summary.*—During the past year the Health Service has had a more adequate staff and has been able to render to the students better medical service than ever before. During the year 1924-25 more students visited the dispensary but less were admitted to the hospital than during any previous year. Excuses for illness were for a total of 11,303 days, 4,003 days less than last year. Numerous students with very serious illnesses were cared for, four of whom died. Many students received prophylactic inoculations against smallpox, diphtheria, and typhoid fever. There were outbreaks of several contagious diseases but, except for scarlet fever and mumps at Crookston, none reached epidemic proportions. Seven university students contracted smallpox during the epidemic in the state but the incidence rate in the University was much lower than in either Minneapolis or St. Paul. The opportunities which the Health Service has for educating students in regard to disease prevention and healthful living are unique and should be taken advantage of more fully than is possible under present conditions. The inadequacy of the dispensary and hospital facilities on the main campus give the students a bad impression of the department, are a handicap to the work, and in some cases make it impossible to provide for students the care that they should have.

Respectfully submitted,

H. S. DIEHL, *Director*

## THE BUREAU FOR RESEARCH IN GOVERNMENT

*To the President of the University:*

I submit herewith the annual report of the Bureau for Research in Government for the year 1924-25.

During the year 1924-25 the bureau issued publications numbers 4 and 5. The first of these, entitled the *Calendar of Minnesota Government for 1925* (62 pp., published October, 1924) was compiled by Miss Esther Crandall. It is the result of a careful attempt to list under its proper date every scheduled event of political and governmental importance in the state for a whole year. Among the dates given are those for the holding of state and local elections, for the meeting of state and local legislative bodies, for the sessions of courts, and for the payment of taxes, as well as dates of historical importance. The second, entitled *The Minneapolis City Charter, 1856-1925* (ix, 133 pp., published June, 1925), was a revision of a Master's thesis written by Jessie McMillan Marcle. This work, which is a study of the development of the charter of Minneapolis from the organization of the city's first local government, is illuminated by frequent references to newspaper comment and to the influence of public opinion in guiding the various steps that have been taken to adopt the local charter to the needs of a large modern city.

Projects now in process include a study of legislation in Minnesota governing municipal indebtedness, and a revision of the study of county government previously referred to in the reports of this bureau.

In the absence of the director, who was on sabbatical leave during the year, the work of the bureau was supervised by Dr. Harold F. Kumm. This work included the removal of the library and equipment of the bureau from the old Library Building to the more adequate quarters that have been provided in the new. The usual services to students in political science were maintained without serious interruption.

Respectfully submitted,

WILLIAM ANDERSON, *Director*



## THE EMPLOYMENT BUREAU

*To the President of the University:*

SIR: From July 1, 1924 to July 1, 1925, the University of Minnesota Employment Bureau has been responsible for the placement of 1,277 persons in positions of either a temporary or permanent nature. We have estimated that the total earnings on these placements has amounted or will soon amount to at least \$123,203.22, as compared to our report of the preceding year which included 1,090 placements with a total of \$96,240.51 earned. It has been our purpose to make this estimate as conservative as possible and we feel certain that, were it possible to secure the actual amount earned on each placement, we should be able to report an even higher total earned.

In preparing this estimate we have computed the amount in accordance with the statement of each employer at the time when he called us unless we have later received more accurate reports either from the employer or the person whom we sent out. We might mention the fact that employers usually underestimate the length of time required to do work and also new work often turns up. Quite frequently a student who gives satisfaction on a temporary job is retained by the same employer in some permanent position.

While a more thoro and detailed check on our placements would result in a more accurate and complete report, it would be of little use in our real business of placing students.

This report does not include a number of, we might say, "indirect placements." It has been our policy to keep in touch to some extent with some of the down-town employers who often use certain types of student or graduate help. Often on receiving applications from people of these types we have suggested that they call on some employer to whose needs we felt they were suited. Quite frequently this has resulted in the applicant's employment either immediately or in the near future.

There are several factors besides the increase in the number of placements which have influenced the increase in the amount earned this year. Notable among these is the fact that more of our "full time permanent" placements were positions for graduates and consequently were more remunerative than the ordinary run for full time positions for younger people. In estimating the amount earned on our full time permanent placements, we have considered the amount earned in one year if there was no raise in pay during that time.

During the last year we have also kept in closer touch with employers with whom we have placed people, which has, in many instances, resulted in our discovery that our estimates for those particular positions were much less than the actual earnings. Because of this we have also been able to obtain the earnings on several canvassing and selling positions for the school year which we had filled and therefore, this estimate includes a

small portion of that class of placements which were to a great extent omitted heretofore.

At this time, we also wish to call attention to the fact that this report does not include either facts or estimates relative to the earnings of a large number of students who are spending their summer canvassing or selling. Many of these positions we filled ourselves and on a great many more we aided the representatives of various reliable companies in their efforts to secure student salesmen. Because of the great variation in the amounts earned by different individuals in this type of work, and the extreme difficulty of securing complete or even semi-accurate information relative to the same, we have not attempted to include summer sales work in our report.

We also do not handle positions in which girls enter private homes to work for board and room as those positions are filled through the office of the dean of women.

As has always been the case, we have not been able to find work for a number of the girl students who have applied at this office. On the average they are, even more than the men, untrained and inexperienced in any form of work which we might be able to find for them.

Gradually through our own efforts and the results of satisfactory placements the University Employment Bureau is becoming more widely known in the Twin Cities. Probably the greatest factor in this has been through what we might almost call a side line, our placements of graduates and students permanently out of school. In many instances we have received summer vacation and part time positions for students which we would never have obtained except for connections established through our placement of graduates.

Originally we were primarily interested in aiding students to finish school. However, we have found that as employers become accustomed to calling upon us for one kind of help they soon expect to obtain almost any variety through this office. As a result each year we receive more and more calls for graduates which we must fill if we hope to retain the "trade" of the employer calling.

As in previous years the need is still strongly felt for a greater centralization of placement work involving the co-operation of the various departments and colleges operating through the central office. The results obtainable through such a system would be additional prestige for this "central" office, increasing advertising facilities, and more extensive connections with employers including more efficient employment service generally.

We wish at this time to express our appreciation and extend our best wishes to those departments on the campus who have co-operated with us and materially aided us in more effectively performing our great service to them as they have to us and that this spirit of co-operation to our mutual benefit may continue.

APPLICATIONS

MEN

General—part time .....	870
Summer vacation—full time.....	139
Summer Session—part time.....	93
Full time—permanently .....	134
Total .....	<u>1,236</u>

WOMEN

General—part time .....	200
Stenographers—part time .....	64
Summer vacation—full time.....	93
Summer Session—part time.....	50
Full time—miscellaneous .....	166
Stenographers—full time .....	112
Total .....	<u>685</u>

Grand total ..... 1,921

GENERAL SUMMARY OF PLACEMENTS

MEN

Number of Positions	Kind of Work	Amount Earned
400.....	Odd jobs .....	\$1,714.00
14.....	Janitor and furnace work.....	1,170.90
84.....	Miscellaneous .....	9,306.12
153.....	Work for board.....	19,186.85
44.....	Clerking in stores.....	4,904.50
44.....	Clerical .....	2,147.45
5.....	Boys' club and settlement work....	1,280.00
10.....	Tutors and teachers.....	784.50
148.....	Ticket takers, guards, etc.....	2,878.89
15.....	Musicians .....	1,058.00
50.....	Canvassers and salesmen.....	2,809.00
47.....	Summer vacation .....	10,545.16
22.....	Full time—permanent .....	25,440.00
1,026.....	Total .....	<u>\$83,226.37</u>

WOMEN

44.....	Miscellaneous .....	\$1,517.25
28.....	Summer vacation .....	1,646.60
102.....	Clerical .....	5,794.85
33.....	Stenographic .....	4,873.65
17.....	Tutors and teachers.....	798.90
28.....	Full time—permanent .....	13,628.80
254.....	Total .....	<u>28,260.05</u>
	Amount earned after July 1, 1925, on placements made after that date.....	<u>*11,952.10</u>
1,277.....	Grand total .....	<u>\$123,203.22</u>

\* Does not include summer vacation positions.

## THE PRESIDENT'S REPORT

## SUMMARY OF PERMANENT PART TIME POSITIONS

MEN		
Number of Positions	Kind of Work	Amount Earned
43	Miscellaneous	\$ 8,760.42
153	Work for board	19,186.85
44	Clerking in stores	4,904.50
14	Janitor and furnace work	1,170.90
13	Clerical	1,693.95
5	Boys' club and settlement work	1,280.00
276	Total	<u>\$36,996.62</u>

## WOMEN

17	Miscellaneous	\$ 1,845.35
31	Clerical	4,839.50
25	Stenographic	4,582.80
73	Total	<u>\$11,267.65</u>

## TEMPORARY POSITIONS

MEN		
Number of Positions	Kind of Work	Amount Earned
400	Odd jobs	\$ 1,714.00
51	Miscellaneous	1,330.20
47	Summer vacation	10,546.16
31	Clerical	453.50
148	Ticket takers, guards, etc.	2,878.89
15	Musicians	1,058.00
50	Canvassers and salesmen	2,809.00
745	Total	<u>\$20,789.75</u>

## WOMEN

44	Miscellaneous	\$ 470.84
28	Summer vacation	1,646.60
79	Stenographic and clerical	1,246.20
148	Total	<u>\$3,363.60</u>

## FULL TIME PERMANENT POSITIONS

28	Women	\$13,628.80
22	Men	25,440.00
50	Total	<u>\$39,068.80</u>
Amount sure to be earned after July 1, 1925, on placement made during the preceding year:		
Women	Clerical	\$ 1,412.50
Women	Miscellaneous	None sure
Men	Clerical	4,207.60
Men	Miscellaneous	6,332.00
Total		<u>\$11,952.10</u>

Respectfully submitted,  
F. V. MOULTON, *Employment Clerk*

## THE MINNESOTA UNION

*To the President of the University:*

SIR: I am submitting herewith the report of the Minnesota Union as prepared by the manager, M. M. Anderson. As this is the first report of this kind, it might be desirable to sketch briefly the origin and progress of the organization. The Union was founded in the spring of 1908 "to promote the best interests and welfare of the University of Minnesota, and comradeship among its members, and to maintain a suitable club house for such purpose."

The membership of the Board of Governors consists of "two members of the faculty, one member of the General Alumni Association who shall not be regent, officer, or member of the faculty, one student representative for each college, and one additional representative for each college having more than one thousand students."

While there is no constitutional provision to that effect the president of the board from the beginning has been a faculty man, A. E. Jenks, E. M. Morgan, J. F. Ebersole, and E. B. Pierce having held that office.

The entire constitution adopted in May, 1908, and modified somewhat since, was adopted by the Board of Regents. Sections 3 and 4 explain the divided responsibility of regents and governors in the control of the Union.

Section 3. So far as concerns the expenditures for, and the receipts from, the operation of the Dining Hall and Kitchen of the Union, and the prices to be charged for the food served, the business thereof shall be under the direction and control of the business office of the University of Minnesota; in all other respects it shall be under the direction and control of the duly authorized officers of the Union; and all profits from the operation of said Dining Hall shall be turned over by said business office to the Treasurer of the Union.

Section 4. Except as in this constitution otherwise expressly provided all the business of the Union shall be conducted by, and be under the supervision and control of the Board of Governors of the Union.

The problem confronting the early boards was the securing of a clubhouse. Plans for a Union Building to cost approximately \$250,000 were drawn and accepted. A campaign for funds was initiated and the men of the University pledged \$26,000. The Commercial Club of Minneapolis pledged \$75,000 on condition that the legislature provide \$150,000. This plan did not carry, and in 1913 at the request of the Board of Regents the old Chemistry Building was assigned to the Union with an appropriation of \$17,500 for remodeling. With scant resources the board began the definite program of carrying out the provisions of the constitution and has kept steadily at it through all these years. By necessity taking one room at a time and making it over from a discarded chemical laboratory into a game room, a ballroom, a reception room, pool rooms, dining rooms, committee rooms, offices, etc., etc., the board has brought the building to its present state.

At first the dining room was operated on the service plan, but after two years of financial loss the cafeteria was adopted. Before it seemed possible that a building could be secured, the board kept the Union idea alive by giving annually some operetta, carnival, or other performance to secure funds toward a clubhouse nest egg: in 1909, a two-day carnival; in 1910, a play, *The Prof and the Princess*, all parts being taken by men; in 1911, *The Girl in the Moon*, another operetta by Edgar Allen; in 1912, the May fête in which President and Mrs. Vincent took active parts; and in 1913, the all-university circus on Northrop Field. All of these ventures were successful both financially and in creating a spirit of comradeship among the members of the University.

It is exceedingly difficult to estimate the value of the Union to the University. It has filled a great need in the life of the student body. For a number of years it seemed as tho there would be a marked division between those who frequented the Union and those who were members of fraternities, but through conscious effort this danger has been avoided, and it is found that the building is largely used by both fraternity and non-fraternity men.

The Union has still a long way to go before it can be called a men's clubhouse complete. The new quarters released by dismantling the Little Theater will help greatly in supplying much needed space for committee dining rooms—one of the greatest campus demands.

E. B. PIERCE, *President, Board of Governors  
of the Minnesota Union*

## FINANCIAL REPORT

*To the President of the University:*

SIR: I submit herewith a summary of the financial operations of the University of Minnesota covering the period from July 1, 1924, to June 30, 1925. Full detailed statistics covering this period are included in the *Report of the Comptroller*.

Respectfully submitted,

ALBERT J. LOBB, *Comptroller*

# COMPTROLLER'S REPORT

Fiscal Year Ending June 30, 1925

## INCOME SUMMARY

	1923-1924	Per Cent	1924-1925	Per Cent
<b>FROM INTEREST</b>				
Swamp Land Interest.....	\$ 66,498.16		\$ 87,510.00	
Land Grant Income.....	92,581.78		102,847.39	
Mayo Foundation Income.....	86,207.27		89,472.33	
	<hr/>	\$ 245,287.21	4.5	<hr/>
			\$ 279,829.72	4.8
<b>FROM FEDERAL FUNDS</b>				
Morrill Fund .....	25,000.00		25,000.00	
Nelson Fund .....	25,000.00		25,000.00	
Adams Fund .....	15,000.00		15,000.00	
Hatch Fund .....	15,000.00		15,000.00	
Smith-Lever Fund .....	150,319.33		150,319.33	
Smith-Hughes Fund .....	19,043.96		18,953.05	
	<hr/>	249,363.29	4.6	<hr/>
			249,272.38	4.2



FROM STATE

23/100 Mill Tax.....	426,825.04		470,480.72	
Maintenance Appropriation .....	3,150,000.00		3,150,000.00	
County Agents .....	85,000.00		85,000.00	
Grand Rapids Main Building.....			80,000.00	
Investigations				
Peat Soils .....	6,000.00		6,000.00	
Sandy Lands .....	7,000.00		7,000.00	
Low Lime .....	5,000.00		5,000.00	
Marl .....	6,000.00		6,000.00	
Manganiferous Ores .....	5,000.00		5,000.00	
Soils Survey .....	6,000.00		6,000.00	
Peat Fuel .....	5,000.00		5,000.00	
Agriculture Extension .....	30,000.00		30,000.00	
Psychopathic Department .....	7,500.00		7,500.00	
	<hr/>	3,739,325.04	67.2	<hr/>
				3,862,980.72 65.9

FROM STUDENT FEES

Regular Session .....	642,218.23		692,917.52
Summer Session .....	103,540.70		129,966.74
Crookston .....	1,943.45		2,277.95
Morris .....	3,739.09		2,107.95
Federal Board Agriculture.....	7,377.80		1,167.20
Extension Division .....	87,727.91		118,115.81
Students Deposits .....	26,001.27		17,101.47

<u>872,548.45</u>	17.2	<u>963,654.64</u>	16.4
-------------------	------	-------------------	------

FROM SALES

Dental Infirmary .....	58,924.75		60,225.75
Minnesota General Hospital and Free Dispensary .....	37,871.30		52,822.55
Minn. General Hospital Reimbursements	10,733.65		50,000.00
Agricultural Products .....	89,231.06		91,589.59
Lyceum Lectures .....	31,796.35		21,857.77
Advance Registry Testing .....	16,680.45		11,682.35
Campus Building Rents and Sales.....	21,981.93		
Sundry Income .....	113,959.57		231,635.77*

<u>381,179.06</u>	6.5	<u>508,131.43</u>	8.7
<u>\$5,487,703.05</u>	100.0	<u>\$5,863,868.89</u>	



## DISBURSEMENTS SUMMARY

1924-1925

	Salaries and Wages	Supplies and Expenses	Refunds	Plant* Maintenance	Capital Outlay	Totals	Per Cent
Administration .....	\$ 142,465.14	\$ 17,630.45	\$ 10.00	\$ 52.01	\$ 1,504.05	\$ 161,661.65	3.2
General .....	168,733.87	87,685.76	258.20	2,253.19	66,169.71	325,100.73	6.5
Physical Education** .....	80,427.07	1,256.16	1,485.80	8,239.17	1,617.56	93,025.76	1.9
College of Science, Literature, and the Arts .....	621,471.73	29,692.15		761.90	7,253.24	659,179.02	13.1
College of Engineering.....	246,294.14	17,486.98		1,342.64	6,326.43	271,450.19	5.4
Department of Agriculture.....	827,884.14	181,121.46	155.66	21,244.21	46,003.77	1,076,409.24	21.5
Medical School .....	232,998.22	23,692.12		1,081.23	4,961.60	262,733.17	5.2
Medical School—Graduate .....	85,949.92					85,949.92†	1.7
Minnesota General Hospital....	109,570.20	81,158.01		23,523.53	16,339.14	230,590.88	4.4
School of Chemistry.....	106,246.25	26,243.19		2,478.34	2,132.31	137,100.09	2.7
School of Mines.....	89,366.06	11,920.81		594.60	5,255.17	107,136.64	2.1
College of Dentistry.....	103,531.52	41,256.83		5,211.44	1,587.71	151,587.50	3.0
Law School .....	54,457.00	1,581.95		59.30	6,234.88	62,333.13	1.3
College of Pharmacy.....	32,016.48	5,732.89		221.12	903.93	38,874.42	.8
College of Education.....	111,982.03	9,202.03		421.97	1,157.44	122,763.47	2.4
University High School.....	41,356.76	1,741.24		109.42	906.01	44,113.43	.9
Summer Session .....	95,252.71	10,102.71	1,527.60	156.68	990.89	108,030.59	2.2
University Extension .....	97,671.46	70,138.66	5,192.82	788.26	1,069.11	174,860.31	3.5
Graduate School .....	6,756.00	20,791.01		21.38	2,836.33	30,404.72	.6
School of Business.....	89,196.48	786.01		39.06	1,290.93	91,312.48	1.8
Physical Plant—University.....	106,192.29	12,845.89	6.75	215,472.46	15,135.17	349,652.56	7.3
Agriculture .....	43,477.75	6,455.70	102.75	78,148.69	1,010.52	129,195.41	2.8
Crookston .....	67,593.95	24,206.59	58.00	7,459.16	5,381.93	104,699.63	2.1
Morris .....	62,154.62	16,610.27	47.87	9,942.77	13,733.24	102,488.77	2.0
Grand Rapids .....	14,619.65	9,379.17		3,210.30	48.80	27,257.92	.6
Duluth .....	11,244.01	5,378.04		1,472.30	756.64	18,850.99	.4
Waseca .....	9,096.76	4,626.56		1,427.04	948.80	16,099.16	.3
Zumbra Heights .....	10,094.22	1,519.25		1,249.50	216.20	13,079.17	.3
Totals .....	\$3,668,100.43	\$720,241.89	\$8,845.45	\$386,981.68	\$211,771.51	\$4,995,940.95	100.0

Improvements, Buildings, Equipment, and Land .....	549,147.43
Miscellaneous Improvements .....	112,498.20
Grand Rapids Main Building .....	17,581.43
	<hr/>
	\$5,675,168.01
Building Fund .....	754,304.73
Service Enterprises .....	845,773.60
Sundry Trust Funds .....	124,411.71
Todd Memorial Hospital .....	44,112.72
Cancer Institute Equipment .....	1,414.20
Cancer Institute Building .....	182,381.27
Senate Com. on Intercollegiate Athletics Revolving Fund ....	9,901.27
Outside Work .....	8,218.71
Minnesota Hospital and Home for Crippled Children .....	22,765.50
Wm. J. Murphy Endowment Fund for the School of Journalism	17,218.55
Senate Com. on Intercollegiate Athletics .....	252,932.70
Mayo Foundation Investments ..	53,000.00
Mayo Foundation Investments— Costs .....	6,670.49
	<hr/>
	\$7,998,273.46

\* Includes Gas, Electricity, Water, Ice, Building Repairs, Janitor Supplies, Laundry, Telephone, and Fuel.

\*\* This includes Payrolls of the Senate Committee on Athletics \$51,749.04.

† Supported by Mayo Foundation.

## PUBLICATIONS OF THE FACULTIES

### ADMINISTRATION

FREDERICK JAMES KELLY, Ph.D., Dean of Administration

The American arts college. New York City: The Macmillan Company. 1925. 198 pages.  
Report of an educational survey of the University of Pennsylvania (with S. P. Capen and G. F. Zook). Philadelphia: The Press of the University of Pennsylvania. 1925. 111 pages.

Report of a survey of the state institutions of higher education of Texas (with L. D. Coffman, G. A. Works, C. B. Hill, and G. F. Zook). Austin: The State Printer. 1925. 200 pages.

A few college problems, Chicago. *Proceedings of the Thirtieth Annual Meeting of the North Central Association of Colleges and Secondary Schools*. March, 1925.

A comparison of practices and purposes of liberal arts colleges. *The Journal of Educational Research* 10:1-49. 1924.

What the administration of a state university hopes for from religious workers. *Christian Education* 7, No. 7:329-42. 1924.

### THE UNIVERSITY LIBRARY

FRANK K. WALTER, M.A., M.L.S., University Librarian

Fugitive material; how to save and make it available. *Public Libraries* 29:497-98. 1924.

The library as an administrative unit. *Minnesota Alumni Weekly* 24:89-92. 1924.  
*In* The library of the University of Minnesota. Dedication. October 31, 1924. Minneapolis. 1924. Pages 8-10.

Library furniture specifications. *Library Journal* 50:163-65. 1925.

Library training courses at the University of Minnesota. *Journal of the Minnesota Education Association* 4:26. 1924.

National certification and library training. *Bulletin of the American Library Association* 18:239-41. 1924.

The new University of Minnesota library. *Public Libraries* 29:529-31. 1924.

Minnesota's new university library. *Library Journal* 49:1029-32. 1924.

### THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

#### ADMINISTRATION

JOHN B. JOHNSTON, Ph.D., Dean of the College of Science, Literature, and the Arts and Professor of Neurology

Predicting success or failure in college at the time of entrance. *School and Society* 19, Nos. 496, 497. June 28, July 5, 1924.

New demands for differential treatment of students in the college of liberal arts. *Ibid.* 20, No. 521. December 20, 1924.

How shall the college discharge its obligation to society? *Bulletin of the Association of American Colleges* 11, No. 2. April, 1925.

#### ANIMAL BIOLOGY

THOMAS S. ROBERTS, M.D., Director of the Zoological Museum and Professor of Ornithology

Minnesota as a home for birds. *The Parent-Teacher Broadcaster* 2:6. 1924.

Why name a Minneapolis public school "The Audubon School"? *Ibid.* 2:10-11. 1925.

The season, April 15 to June 15, 1924, Minnesota region. *Bird-Lore* 26:270-74. 1924.

- The season, June 15 to August 15, 1924, Minnesota region. *Ibid.* 26:339-42. 1924.  
 The season, October 15 to December 15, 1924, Minnesota region. *Ibid.* 27:16-18. 1925.  
 The season, December 15, 1924 to February 15, 1925, Minnesota region. *Ibid.* 27:119-21.  
 1925.  
 The season, February 15 to April 15, 1925, Minnesota region. *Ibid.* 27:190-93. 1925.

HAL DOWNEY, Ph.D., Professor of Histology

- Reviews and abstracts of American haematological literature. *Folia Haematologica*.  
 1924-25.  
*American editor, Folia Haematologica.*

ELMER JULIUS LUND, Ph.D., Associate Professor of Zoology

- Experimental control of organic polarity by the electric current. V. The nature of the control of organic polarity by the electric current. *Journal of Experimental Zoology* 41:155-91. 1925.  
 The effect of a constant magnet field on morphogenetic processes. *Proceedings of the Society for Experimental Biology and Medicine* 22:125-26. 1924.  
 The relation of the stability of protoplasmic films in *Noctiluca* to the duration and intensity of an applied electric potential (with G. A. Logan). *Journal of General Physiology* 7:461-71. 1925.

DWIGHT ELMER MINNICH, Ph.D., Assistant Professor of Animal Biology

- The aims in general zoology at Minnesota. *School and Society* 21:423-25. 1925.

ADOLPH R. RINGOEN, Ph.D., Instructor in Animal Biology

- Further studies of Ferrata's hemohistioblasts. *Anatomical Record* 29:372. 1925.  
 Reviews and abstracts of some important American hematological literature. *Folia Haematologica*, 1924-25.

#### ANTHROPOLOGY

WILSON D. WILLIS, B.Sc., Ph.D., Associate Professor of Anthropology

- Does behaviorism imply mechanism? *American Journal of Psychology* 35:387-95. 1924.  
 The teaching of anthropology. *American Anthropologist* 26:283-89. 1924.  
 Error and the genesis of tradition. *Ibid.* 26:295-96. 1924.  
 Diffusion as a criterion of age. *Ibid.* 27:91-99. 1925.  
 Mental patterns in relation to culture. *Journal of Abnormal Psychology and Social Psychology* 19:179-84. 1924.  
 Is purpose only mechanism imperfectly understood? *Journal of Philosophy* 22:94-98. 1925.  
 Do the characteristics of prehistoric human remains imply a common ancestry for man and apes? *American Naturalist* 59:62-69. 1925.

#### ASTRONOMY

FRANCIS P. LEAVENWORTH, M.A., Professor of Astronomy and Head of the Department of Astronomy

- Association of Variable Star Observers, 1924. Pages 1-106.  
 Observations of the magnitudes of variable stars. With other observers, published under heading, "Monthly Report of American Association of Variable Star Observers." *Popular Astronomy* 31:475-92, 535-51, 606-17, 667-80; 33:48-70, 127-40, 198-210. 263-73.  
 Elements of Asteroid Y.O. 18. *Astronomical Journal* 36:15-16. 1924.  
 Elem. Vorr Planeten. *Astronomische Nachrichten* 223:213.

## BOTANY

J. ARTHUR HARRIS, Ph.D., Professor of Botany and Head of the Department of Botany

- Activities of the Department of Botany, University of Minnesota, 1924. Minneapolis, Minnesota. 1925. 29 pages.
- The tissue fluids of Egyptian and Upland cottons and their  $F_1$  hybrid (with Z. W. Lawrence, W. F. Hoffman, J. V. Lawrence, and A. T. Valentine). *Journal of Agricultural Research* 27:267-328. 1924.
- The osmotic concentration, specific electrical conductivity, and chloride content of the tissue fluids of the indicator plants of the vegetation of the Tooele Valley, Utah (with R. A. Gortner, W. F. Hoffman, J. V. Lawrence, and A. T. Valentine). *Ibid.* 27:893-924. 1924.
- The chloride content of the leaf tissue fluids of Egyptian and Upland cotton (with J. V. Lawrence and Zonja Wallen Lawrence). *Ibid.* 28:695-704. 1924.
- Tests of a wet oxidation and modified volhard method for the determination of chlorides in plant tissue fluids (with J. V. Lawrence). *Journal of the American Chemical Society* 46:1471-77. 1924.
- On the relationship between stature and length of appendages in man. *American Naturalist* 58:254-71. 1924.
- The tissue fluids of *Cuscuta*. *Bulletin of the Torrey Botanical Club* 51:127-31. 1924.
- The reaction of the cotton plant (with W. F. Hoffman and Arnold H. Johnson). *Science*, (n.s.) 61:65. 1925.
- The accumulation of chlorides in the leaf tissue fluids of Egyptian cotton with the march of the season. *Proceedings of the Society for Experimental Biology and Medicine* 22:415-17. 1925.

CARL OTTO ROSENDAHL, M.S., Ph.D., Professor of Botany

- Distribution of the white oak in Minnesota (with F. K. Butters). *Studies in Biological Sciences* 5:199-209. 1924.
- Trees and plants along Highway No. 1 (with F. K. Butters). *Minnesota Geological Survey Bulletin* 20:104-18. 1925.

FREDERICK KING BUTTERS, B.S., Ph.D., Associate Professor of Botany

- Edward W. D. Holway. *Botanical Gazette* 77:115. 1924.

## COMPARATIVE LITERATURE

OSCAR W. FIRKINS, M.A., Professor of Comparative Literature

- William Dean Howells: a study. Cambridge, Mass.: Harvard University Press. November 19, 1924.
- The unbidden guest: a one-act play. *Poet Lore* 35:276-97. 1924.
- After twenty-five years: a one-act play. *The Drama*. February, 1925. Pages 99-101, 109. *Reviews of*
- Making Shelley plain. *Literary Review of New York Evening Post*, July 12, 1924. Page 884.
- Master's The New Spoon River. *Saturday Review of Literature* 1, No. 11:178. October 11, 1924.
- Amy Lowell's Keats. *Minneapolis Journal*. April 19, 1925.
- With two Frenchmen in Concord. *The Nation* 20:522. May 13, 1925.

## COMPARATIVE PHILOLOGY

FREDERICK KLAEBER, Ph.D., Professor of Comparative and English Philology

- A note on The Battle of Brunanburh. *Festschrift für Alois Brandl*, 1925. 7 pages.



*Reviews of*

- Albert Klein, The influence of Christianity on the vocabulary of Old English poetry. *Englische Studien* 56:88-90. 1922.
- K. Schreiner, Die Sage von Hengest und Horsa. *Archiv für das Studium der neueren Sprachen* 144:276-78. 1923.
- C. H. Grandgent, Old and new, sundry papers. *Englische Studien* 57:124-27. 1923.
- P. G. Thomas, An introduction to the history of the English language. *Beiblatt zur Anglia* 34:12-14. 1923.

## ENGLISH

JOSEPH WARREN BEACH, Ph.D., Professor of English

- Meek Americans and other European trifles. Chicago: University of Chicago Press. 1925. 222 pages.
- The eloquence of stones. *Yale Review* 14:482-94. 1925.
- Expostulation and reply (article on Wordsworth). *Publications of the Modern Language Association of America* 40:346-61. 1925.

RICHARD BURTON, Ph.D., LL.D., Professor of English

- Reflections from teaching literature. *Educational Review*. November, 1924.
- Why go to college? *American Mercury*. December, 1924.
- The South in literature. *The Bookman*. February, 1925.
- Culture in California. *Ibid.* May, 1925.
- Review*
- Several reviews of current poetry. *New York Sun*. 1925.

CHARLES WASHBURN NICHOLS, Ph.D., Assistant Professor of English

- Social satire in Fielding's Pasquin and The historical register. *Philological Quarterly* 3:309-17. 1924.
- Review of*
- Joseph M. Beach, Meek Americans. *Minnesota Alumni Weekly* 24:398. 1925.

LESTER RAINES, M.A., Assistant Professor of English and Director of Dramatics

- One-act plays: A bibliography. Part IV. *Bulletin of Bibliography* 12:88-90. 1925.
- Review*
- With the periodicals (with Alethea E. Smith). *Players Magazine*. November, 1924, January, March, June, 1925.

## GEOGRAPHY

DARRELL HAUG DAVIS, Ph.D., Associate Professor of Geography and Head of the Department of Geography

- Geography of the Kentucky mountains. *Kentucky Geological Survey*, Series VI. 18:180. 1924.
- The changing rôle of the Kentucky mountains and the passing of the Kentucky mountaineer. *Journal of Geography* 22:41-52. 1925.
- Review of*
- Preston E. James and R. Burnett Hall, Outline for a course on the principles of Geography. *Journal of Geography* 24:82. 1925.

## GEOLOGY AND MINERALOGY

WILLIAM H. EMMONS, Ph.D., Professor of Geology and Head of the Department of Geology and Mineralogy

- Geology and ore deposits of Ducktown, Tennessee. *United States Geological Survey*. (Professional paper.) 250 pages.

FRANK F. GROUT, Ph.D., Professor of Geology and Mineralogy

- Notes on biotite. *American Mineralogist* 9:159-65. 1924.  
 Notes on stilpnomelane (with George A. Thiel). *Ibid.* 9:228-31. 1924.  
 The rate of secondary enrichment. *Economic Geology* 20:289-91. 1925.  
*Reviews of*  
 Notes on biotite. Author's abstract. *Revue de Geologie*. 1925.  
 Notes on stilpnomelane. Author's abstract. *Ibid.* 1925.

CLINTON R. STAUFFER, Ph.D., Professor of Geology

- The fossil elephants of Minnesota. *Science* 60:40-41. 1924.  
 Mineralization of the Platteville-Decorah contact zone in the Twin City region. *Pan-American Geologist* 43:158-59. 1925.

JOHN W. GRUNER, Ph.D., Assistant Professor of Geology

- Discovery of life in the Archean. *Journal of Geology* 33:151-52. 1925.

GEORGE MELVIN SCHWARTZ, Ph.D., Assistant Professor of Geology

- A guidebook to Minnesota Trunk Highway No. 1. *University of Minnesota Geological Survey Bulletin* 20. 1925. 128 pages.  
 On the nature and origin of hisingerite from Parry Sound, Ontario. *American Mineralogist* 9:141-44. 1924.  
 Xonotlite and pectolite in a diabase pegmatite from Minnesota. *Ibid.* 10:83-88. 1925.  
 Contact effects of granite and gabbro on ore deposition. *Economic Geology* 19:681-84. 1924.  
 A sulphide diabase from Cook County, Minnesota. *Ibid.* 20:261-65. 1925.  
 Rôle of secondary enrichment in genesis of Butte chalcocite. (Discussion.) *Transactions of the American Institute of Mining Engineers* 70:962-63. 1924.  
*Review of*  
 M. P. Gaubert, Sur la détermination des minéraux par l'examen microscopique de leur trace laissé sur un corps dur. *Economic Geology* 19:491-92. 1924.

GEORGE A. THIEL, Ph.D., Instructor in Geology and Mineralogy

- The precipitation of manganese from meteoric solutions. *American Journal of Science* 7:457-72. 1924.  
 Iron sulphides in magnetic belts near the Cuyuna Range. *Economic Geology* 19:466-73. 1924.  
 High temperature manganese in the Cuyuna Range. *Ibid.* 19:377-82. 1924.  
 Use of the bi-quartz-wedge plate in studying polished ores in reflected polarized light. *Ibid.* 19:582-85. 1924.  
 A Minnesota meteorite (with W. Beal). *Science* 60:498. 1924.  
 Present commercial possibilities of the magnetite slates of the Cuyuna Range, Minnesota. *Engineering and Mining Journal* 118:735-39. 1924.

## GERMAN

SAMUEL KROESCH, Ph.D., Associate Professor of German

- Reviews of*  
 E. Wellander, Studien zum Bedeutungswandel. Deutschen, II.  
 H. Sperber, Einführung in die Bedeutungslehre. *Modern Language Notes* 40:297-302. 1925.

GEORGE F. LUSSKY, Ph.D., Assistant Professor of German

- "*Werdan und Wesan mit dem Partizip Passiv in der ahd. Tatian-Übersetzung.*"  
*Journal of English and German Philology* 23:342-69. 1924.

## HISTORY

SOLON J. BUCK, Ph.D., Professor of History

Twenty-third biennial report of the Minnesota Historical Society. St. Paul. 1925. 89 pages.

*Reviews of*

A. M. Arnett, The populist movement in Georgia. *Mississippi Valley Historical Review* 11:283-84. 1924.

Joseph Schafer, Wisconsin domesday book: town studies. Vol. 1. *Ibid.* 12:101-5. 1925.

P. F. X. de Charlevoix, Journal of a voyage to North America, Caxton Club edition. *Minnesota History Bulletin* 5:492. 1924.

W. E. Culkin, St. Louis County, Minnesota chronology. *Minnesota History Bulletin* 6:63-64. 1925.

WILLIAM STEARNS DAVIS, Ph.D., Professor of History

The beauty of the purple, a tale of imperial Constantinople twelve centuries ago. New York: Macmillan Company. September, 1924. 570 pages.

A day in old Rome. Boston: Allyn and Bacon. 1925. 473 pages.

Month's history of France: every month through the year. *Current History Magazine*.

Letters on subjects of public interest in the *Minneapolis Tribune*, *Minneapolis Journal*, *Boston Herald*, *Springfield Republican*, and *New York Times*.

LESTER BURRELL SHIPPEE, Ph.D., Associate Professor of History

Recent American history. New York: The Macmillan Company. 1924. 554 pages.

Syllabus for the study of American history to 1877. Minneapolis: The Perine Book Company. 1924. 50 pages.

The annual meeting of the Mississippi Valley Historical Association. *Mississippi Valley Historical Review* 11:258-67. 1924.

*Reviews of*

Charnwood, Theodore Roosevelt. *American Historical Review* 29:786-87. 1925.

Folwell, A history of Minnesota, Vol. II. *Minnesota Alumni Weekly*. July 24, 1924.

Haynes, Social history of the United States. *Minnesota History* 6:53. 1925.

Nevins, The American states during and after the Revolution. *Mississippi Valley Historical Review* 11:581-82. 1924.

D. Pasquet, Histoire politique et sociale du peuple americain. *Ibid.* 11:420-21. 1924.

JOHN PERRY PRITCHETT, M.A., Instructor in History

*Review of*

Harold A. Innis, A history of the Canadian Pacific Railway. *Minnesota History* 6:54-56. March, 1925.

FAITH THOMPSON, Ph.D., Instructor in History

The first century of Magna Carta: why it persisted as a document. Research Publications of the University of Minnesota, *Studies in the Social Sciences*, No. 16. March, 1925. 116 pages.

## MATHEMATICS

DUNHAM JACKSON, Ph.D., Professor of Mathematics

A generalized problem in weighted approximation. *Transactions of the American Mathematical Society* 26:133-54. 1924.

On the method of least  $m$ th powers for a set of simultaneous equations. *Annals of Mathematics* 25:185-92. 1924.

On the trigonometric representation of an ill-defined function. *Ibid.* 26:8-20. 1924.

A general class of problems in approximation. *American Journal of Mathematics* 46:215-34. 1924.

- The trigonometry of correlation. *American Mathematical Monthly* 31:275-80. 1924.  
 The elementary geometry of function space. *Ibid.* 31:461-71. 1924.  
 A symmetric coefficient of correlation for several variables. *Bulletin of the American Mathematical Society* 30:536-42. 1924.  
 The geometry of frequency functions. *Ibid.* 31:63-73. 1925.

ELIZABETH CARLSON, Ph.D., Instructor in Mathematics

- Extension of Bernstein's theorem to Sturm-Liouville sums. *Transactions of the American Mathematical Society* 26:230-40. 1924.

### MUSIC

DONALD N. FERGUSON, M.A., Associate Professor of Music

- The "secret" of the pianist's beautiful touch. *The Musical Quarterly* 10, No. 3:384-99. July, 1924.

### PHILOSOPHY

NORMAN WILDE, Ph.D., Professor of Philosophy and Head of the Department of Philosophy

- The ethical basis of the state. Princeton: The Princeton University Press. 1924. 236 pages.  
 La significacion de los derechos. *Inter-America* 8:438-48. 1925. (Translation of an article on The meaning of rights, published in the *International Journal of Ethics*. 1924.)

GEORGE P. CONGER, B.D., Ph.D., Assistant Professor of Philosophy

- A course in philosophy. New York: Harcourt, Brace, and Company. 1924. 603 pages.  
 The doctrine of levels. *Journal of Philosophy* 22:309-21. 1925.  
*Reviews of*  
 Edgar Pierce, The philosophy of character. *Journal of Philosophy* 22:155-58. 1925.  
 Norman Wilde, The ethical basis of the state. *Minnesota Alumni Weekly*, March 5, 1925. Pages 349-50.

### PHYSICAL EDUCATION FOR MEN

NIELS THORPE, Instructor in Physical Education for Men

- Articles on swimming. *Intercollegiate Swimming Guide*.

### PHYSICAL EDUCATION FOR WOMEN

J. ANNA NORRIS, M.D., Professor of Physical Education for Women and Director of Health and Physical Education for Women

- Dangers in basket ball. *Child Health Magazine* 5:512-13. 1924.

### PHYSICS

HENRY A. ERIKSON, Ph.D., Professor of Physics and Chairman of the Department of Physics

- On the nature of the ions in air and in carbon dioxide. *Physical Review* 24:502-9. November, 1924.  
 The mobility of actinium active deposit ions. *Ibid.* 24:622-26. December, 1924.  
*Abstracts of*  
 Independence of the mobility and mass of an ion. *Physical Review* 25:111. 1925.  
 Isolation of two positive bodies in thorium active deposits. *Ibid.* 25:890. 1925.  
 Mobility of argon ions in air. *Ibid.* 25:890. 1925.

LOUALLEN F. MILLER, Ph.D., Associate Professor of Physics

A new arrangement for measuring magnetostriction. *Physical Review* (Series 2) 25:250. 1925.

JOSEPH VALASEK, Ph.D., Assistant Professor of Physics

Dielectric anomalies in Rochelle salt crystals. *Physical Review* 24:560-68. 1924.

JOHN H. VAN VLECK, Ph.D., Assistant Professor of Physics

A correspondence principle for absorption. *Journal of the Optical Society of America and Review of Scientific Instruments* 9:27-30. 1924.

The absorption of radiation by multiple periodic orbits and its relation to the correspondence principle and the Rayleigh-Jeans law. Parts I and II. *Physical Review* 24:330-65. 1924.

*Abstracts of*

Half quanta and the stability of relativistic orbits. *Physical Review* 25:108. 1925.

Virtual oscillators and scattering in the quantum theory. *Ibid.* 25:242. 1925.

Half quanta and the specific heat of hydrogen (with E. Hutchisson). *Ibid.* 25:243. 1925.

*Reviews of*

E. P. Adams, The quantum theory (second edition). *Journal of the Optical Society of America and Review of Scientific Instruments* 9:401-2. 1924.

William C. McC. Lewis, A system of physical chemistry, Vol. III, Quantum Theory (third edition). *Physical Review* 25:103-4. 1925.

J. WILLIAM BUCHTA, M.A., Instructor in Physics

A low-voltage electron-beam oscillograph. *Journal of the Optical Society of America and Review of Scientific Instruments* 10:581-90. 1925.

## POLITICAL SCIENCE

CEPHAS D. ALLIN, M.A., LL.B., Professor of Political Science and Chairman of the Department of Political Science

*Reviews of*

Thomas Harrison Reed, Government and politics of Belgium. *Minnesota Law Review* 9:492-94. 1924.

J. S. Battye, Western Australia. *American Historical Review* 25:599-600. 1924.

Harold Spender, The life of Sir Henry Campbell Bannerman. *American Political Science Review* 18:805-7. 1924.

James Brown Scott, Prize cases decided in the United States Supreme Court, 1789-1918. *Michigan Law Review* 24:204-6. 1924.

Manley O. Hudson, The permanent court of international justice. *The Docket* 3:2880-82. 1924.

JEREMIAH S. YOUNG, Ph.D., Professor of Political Science

City planning and restrictions on the use of property. *Minnesota Law Review* 9:518-41, 593-637. 1924.

WILLIAM ANDERSON, Ph.D., Associate Professor of Political Science

*Reviews of*

John D. Hicks, The constitutions of the northwest states. *Minnesota History Bulletin* 5:591-93. 1924.

Joseph Wright, Selected readings in municipal problems. *American Political Science Review* 19:414-15. 1925.

Editor, Esther Crandall, compiler, Calendar of Minnesota government, 1925. University of Minnesota, Bureau for Research in Government No. 4. 1924. 62 pages.

Editor, Jessie M. Marcle, The Minneapolis city charter, 1856-1925. University of Minnesota, Bureau of Research in Government No. 5. 1925. 133 pages.

HAROLD SCOTT QUIGLEY, Ph.D., Associate Professor of Political Science

Political readjustment in China. *Yale Review* 13:746-65. 1924.

The Chinese constitution. *Chinese Social and Political Science Review* 9:88-99. 1925.  
Chinese conditions and American policy. *China Weekly Review* Vol. 31. 1925.  
*Reviews of*

C. Delisle Burns, A short history of international intercourse. *American Political Science Review* 18:818. 1924.

W. F. Mannix, Memoirs of Li Hung-Chang. *Ibid.* 19:419. 1925.

P. S. Mowrer, Our foreign affairs. *Ibid.* 18:817-18. 1924.

J. D. Whelpley, British-American relations. *Ibid.* 18:816-17. 1924.

Manley O. Hudson, The permanent court of international justice. *Minnesota Law Review* 9:692-94. 1925.

T. Nakano, The ordinance power of the Japanese emperor. *Ibid.* 9:83-85. 1924.

HAROLD F. KUMM, M.A., LL.B., S.J.D., Assistant Professor of Political Science

Mandamus to the governor in Minnesota. *Minnesota Law Review* 9:21-53. 1924.  
*Review of*

Esther Crandall, compiler, Calendar of Minnesota government, 1915. *Minnesota Law Review* 9:85. 1924.

C. WALTER YOUNG, M.A., Instructor in Political Science and Staff Assistant of the Municipal Reference Bureau

The Russian advance into Manchuria. *The Chinese Students Monthly* 20, No. 7. May, 1925.

Prospective legislative problems in Minnesota, 1925. *Minnesota Municipalities* 9, No. 6. December, 1924.

Legislation affecting Minnesota municipalities: a digest of acts passed in 1925. *Ibid.* 10, No. 3, June, 1925.

*Reviews of*

Elsie McCormick, Audacious angles on China. *The Chinese Students Monthly* 20, No. 1. November, 1924.

Herbert Croly, Willard Straight. *Ibid.* 20, No. 7, May, 1925.

## PSYCHOLOGY

KARL S. LASHLEY, Ph.D., Professor of Psychology

The behavioristic interpretation of consciousness. *Psychological Review* 30:237-72, 329-53. 1923.

Contributions of Freudism to psychology: Physiological analysis of the libido. *Ibid.* 31:192-202. 1924.

Temporal variation in the function of the Gyrus Precentralis in primates. *American Journal of Physiology* 65:585-602. 1923.

Studies of cerebral function in learning. V. The retention of motor habits after destruction of the so-called motor areas in primates. *Archives of Neurology and Psychiatry* 12:249-76. 1924; VI. The theory that synaptic resistance is reduced by the passage of the nerve impulse. *Psychological Review* 31:369-75. 1924.

DONALD G. PATERSON, M.A., Professor of Psychology

The preparation and use of new type examinations. Mimeographed and distributed to the faculties of the University of Minnesota. January, 1925. 44 pages.

Student personnel service at the University of Minnesota. *Journal of Personnel Research* 3:449-53. April, 1925.

Principles and methods underlying adequate achievement measures. *Bulletin of the Federation of State Medical Boards of the United States* 11:64-72. March, 1925.

HERBERT WOODROW, Ph.D., Associate Professor of Psychology

Review of

J. L. Horn, The education of exceptional children. *Journal of Educational Research* 9:161-63. 1924.

CHARLES BIRD, Ph.D., Assistant Professor of Psychology

The relative importance of maturation and habit in the development of an instinct. *The Pedagogical Seminary and Journal of Genetic Psychology* 22:68-91. 1925.

EDNA HEIDBREDER, Ph.D., Instructor in Psychology

An experimental study of thinking. *Archives of Psychology* 73:1-175. 1924.

HEINRICH KLÜVER, Ph.D., Instructor in Psychology

Psychological and sociological types. *Psychological Review* 31:456-62. 1924.

Begabungsdifferenzierung im ersten Schuljahr. *Zeitsch. f. angew. Psychologie* 35:1-49. 1925.

Psychologische Bemerkungen zum Bilderbogentest. *Ibid.* 35:50-60. 1925.

The problem of type in "cultural science psychology." *Journal of Philosophy* 22:225-34. 1925.

Translation, William Stern, The theory of the constancy of intelligence. *Psychological Clinic* 16:110-18. 1925.

KATHERINE EVA LUDGATE, Ph.D., Instructor in Psychology

The effect of manual guidance upon maze learning. *Psychological Monographs* 33, No. 1. 1923.

CARNEY LANDIS, Ph.D., National Research Fellow

Studies of emotional reactions. I. Preliminary study of facial expression. *Journal of Experimental Psychology* 7:325-41. 1924; II. General behavior and facial expression. *Journal of Comparative Psychology* 4:447-509. 1924; III. Systolic blood pressure and inspiration-expiration ratios. *Ibid.* 5:220-52. 1925.

Criteria of emotionality (with R. Gullette and C. Jacobsen). *Pedagogical Seminary* 22:190-210. 1925.

Justification of judgments. *Journal of Personnel Research* 4:7-19. 1925.

## ROMANCE LANGUAGES

EVERETT WARD OLMSTED, Ph.D., Litt.D., Professor of Romance Languages and Head of the Department of Romance Languages

First Spanish reader (with Edward H. Sirich). New York: Henry Holt and Company. 1924. 258 pages.

RUTH SHEPARD PHELPS, Ph.D., Associate Professor of Romance Languages

Italian silhouettes (with an introduction by Ernest H. Wilkins). New York: Knopf. 1924. 227 pages.

The earlier and later forms of Petrarch's *Canzoniere*. Chicago: University of Chicago Press. 1925. 344 pages.

Review of

A. Sergio, Logical method to learn the Italian language. *Bulletin of the American Association of Teachers of Italian* 1:36-37. 1924.

ALEXANDER HAGGERTY KRAPPE, Ph.D., Assistant Professor of Romance Languages

The song of Grotti. *Modern Language Review* 19:325-34. 1924.

A Flemish legend of the ploughman king. *Levensche Bijdragen* 16:93-100. 1924.

- An Italian legend in Pierre Damian. *The Romanic Review* 15:94-99. 1924.  
 The source of Pedro Antonio de Alarcón's El Afrancesado. *Ibid.* 16:54-56. 1925.  
 Note sur un épisode de l'Historia Britonum de Nennius. *Revue Celtique* 41:181-88. 1924.  
 La légende de la maison fermée de Tolède. *Bulletin Hispanique* 26:305-11. 1924.  
 Studies on the seven sages of Rome. *Archivum Romanicum* 8:386-407. 1924.  
 Quelques sources grecques de Niccolò Machiavelli. *Etudes Italiennes* 6:80-86. 1924.  
 The source of Novellino XXVIII. *Neuphilologische Mitteilungen* 26:13-18. 1925.  
 Two ancient parallels to Aucassin et Nicolette. *Philological Quarterly* 4:180-81. 1925.  
 La chèvre de M. Seguin d'Alphonse Daudet et l'Ecbasis captivi. *Revue de Littérature Comparée* 5:339-42. 1925.  
 Note on Bandello, Parte I, Novella XLI. *Modern Language Review* 20:191-92. 1925.  
 The story of Eriphyle in Arabic legend. *The American Journal of Semitic Languages and Literatures* 41:194-97. 1925.
- Reviews of*  
 Important American publications. 1920. *Archivum Romanicum* 8:178-88. 1924.  
 André Mazon, Contes slaves de la Macédoine sud-occidentale. *Folk-Lore* 35:293-97. 1924.  
 H. Sparnaay, Verschmelzung legendarischer und weltlicher Motive in der poesie des mittelalters. *The Journal of English and Germanic Philology* 23:591-92. 1924.  
 George Jacob, Märchen und Traum. *Modern Language Notes* 40:112-15. 1925.

OLAF K. LUNDEBERG, M.A., Instructor in Romance Languages

- The true sources of Godsley's The king and the miller of Mansfield. *Modern Language Notes* 39:394-97. 1924.  
 Collé's Borrowing from the Sully memoirs. *Ibid.* 40:350-52. 1925.  
 Ibsen in France: a study of the Ibsen drama, its introduction, vogue, and influence on the French stage. *Scandinavian Studies and Notes* 8:93-108. 1924.

GEORGE B. WATTS, M.A., Instructor in Romance Languages

- Notes on Voltaire. I. Voltaire's correspondence with M. de Brus; II. Possible variants of Oedipe; III. Voltaire's correspondence with Bollidou Mermet. *Modern Language Notes* 39:479-82. 1924.  
 The authorship of two pamphlets against Houdar de la Motte's Inès de Castro. *Ibid.* 40:32-35. 1925.  
 The authorship of l'Elève de Terpsicore. *Ibid.* 40:124. 1925.  
 Voltaire's Verses against Louis Racine's De la Grâce. *Ibid.* 40:189. 1925.

## SCANDINAVIAN

ANDREW A. STOMBERG, M.S., Professor of Scandinavian

- Early efforts at Scandinavian church union in America. *Year Book of the Swedish Historical Society* 9:7-34. 1923-24.  
 Various brief articles in Swedish papers in this country and Sweden on Swedish cultural subjects.

## SOCIOLOGY

F. STUART CHAPIN, Ph.D., Professor of Sociology, Chairman of the Department of Sociology and Director of the Training Course for Social and Civic Work

- Educational and religious responsibility for delinquency and their contributions to future plans for the prevention of delinquency. *Proceedings of the Minnesota State Conference of Social Work*. July, 1924. Pages 68-72.  
 Progress in methods of inquiry and research in the social and economic sciences. *Scientific Monthly* 19:390-400. October, 1924.  
 The lag of family mores in social culture. *Journal of Applied Sociology* 9:241-50. March, April, 1925.



- The statistical definition of a societal variable. *American Journal of Sociology* 30:154-72. September, 1924.
- Social science abstracts. *Ibid.* 30:87-89. July, 1924.
- Socialized leadership. *Journal of Social Forces* 3:57-59. November, 1924.
- A theory of synchronous culture cycles. *Ibid.* 3:596-605. May, 1925.
- Some thoughts on our social machinery. *The Survey* 43:322-24. December, 1924.
- Report of the delegates of the American Sociological Society to the Social Science Research Council. *Publications of the American Sociological Society* 18:199-202. 1925.
- Review of*
- S. J. Holmes, Studies in evolution and eugenics. *American Journal of Sociology* 30:357-58. 1924.

## LUTHER LEE BERNARD, Ph.D., Professor of Sociology

- Instinct: a study in social psychology. New York: Henry Holt and Company. 1924. 550 pages. Reprinted, 1925.
- Recent trends in social psychology. *The Journal of Social Forces* 2: 737-43. 1924.
- Population and social progress. *Ibid.* 3:21-30. 1924.
- The development of the concept of progress: Theological phase. *Ibid.* 3:207-12. 1925.
- Research problems in the psychology of rural life. *Ibid.* 3:446-53. 1925.
- Psychology and human conduct. *Ibid.* 3:535-38. 1925.
- The concept of progress: the metaphysical phase. *Ibid.* 3:617-22. 1925.
- The intellectual aspect of invention (Reprint from *Invention and social progress*. In Clarence M. Case, *Outlines of introductory sociology: a textbook of readings in social science*. Pages 885-90.) 1924.
- The misuse of the concept of instinct (Reprint from *Instinct*. In Harry Elmer Barnes, *The new history and the social studies*. Pages 41-45.) 1925.
- Reviews of*
- F. S. Marvin, Progress and history. *American Journal of Sociology* 30:224-25. 1924.
- Robert Shafer, Progress and science. *Ibid.* 30:224-25. 1924.
- F. Mattias Alexander, Constructive conscious control of the individual. *Ibid.* 30:354-57. 1924.
- George Malcolm Stratton, Anger: its religious and moral significance. *Ibid.* 30:354-57. 1924.
- Frederic Lyman Wells, Pleasure and behavior. *Ibid.* 30:354-57. 1924.
- William Stern, Psychology of early childhood up to the sixth year of age. *Ibid.* 30:602-3. 1925.
- Hartley Burr Alexander, Nature and human nature: essays metaphysical and historical. *Ibid.* 30:747. 1925.

## PITIRIM SOROKIN, Dr. of Soc., Professor of Sociology

- L'etat actuel de la Russie. Torino, Italy: Bibliothèque Sociologique de *Vox Populorum*. 1924. 90 pages.
- Sistema sociologii (second edition) Vol. 1, Part I. Prague 1924. 120 pages.
- Leaves from a Russian diary. New York: Dutton Company. 1924. 310 pages.
- The sociology of revolution. Philadelphia and London: Lippincott Company. 1925. 428 pages.
- Ideologia agrarisma. Prague: Khutor Company. 1924. 35 pages; Bulgarian edition. Sophia. 1924.
- New Soviet codes and Soviet justice. *Michigan Law Review* 23:1. 1924.
- American millionaires and multimillionaires. *The Journal of Social Forces* 3, No. 4: 627-40. May, 1925.
- Reviews of*
- A. Kornilov, Modern Russian history. *Saturday Review of Literature* 1:21. 1924.
- E. Zamiatin, We. *Ibid.* 1:28, 1925.
- A. Berkman, The Bolshevik myth. *Ibid.* 1:28. 1925.
- Hullinger, The reforging Russia. *Ibid.* 1:28. 1925.

- MANUEL CONRAD ELMER, Ph.D., Associate Professor of Sociology  
 Women in industry. St. Paul: St. Paul Association of Business and Public Affairs.  
 1924. 50 pages.  
 Women in secretarial and clerical positions. Minneapolis: Women's Occupational Bu-  
 reau. 1925. 50 pages.  
 Statistical methods applied to sociology. Los Angeles: Jesse R. Miller. 1925. 225  
 pages.  
 The evaluation and scoring of community activities. *American Journal of Sociology*  
 30:172-76. 1924.  
 The random sample. *Journal of Applied Sociology*. July, 1925.

- EDWIN LEAVITT CLARKE, Ph.D., Assistant Professor of Sociology  
 Teaching scientific thinking to social science students. *Journal of Applied Sociology*  
 8:355-58. 1924.

- MILDRED DENNETT MUDGETT, Ph.D., Assistant Professor of Sociology  
 Results of Minnesota's laws for the protection of children born out of wedlock. *Federal  
 Children's Bureau Publications* No. 128. 1924. 56 pages.  
 Field work for advanced students. *Journal of Social Forces* 1:395-99.  
 County allowances in Minnesota in 1922. *Ibid.* 2:520-29. May, 1924.  
 The social effect upon the family of forced marriage. *The Family* 5:16-22. March, 1924.  
 Case work problems with special reference to relationships between parents and children.  
*Proceedings of the National Conference of Social Work*, fifty-first session, 1924.  
 pages 280-84.

- C. RUSSELL HOFFER, M.S., Instructor in Sociology  
 The beginning course in rural sociology at the University of Minnesota. *School and  
 Society* 21:501-4. 1925.  
 Commodity distribution in rural communities. *Proceedings of the American Sociological  
 Society*, 1924.

## THE COLLEGE OF ENGINEERING AND ARCHITECTURE ADMINISTRATION

- ORA M. LELAND, B.S., C.E., Dean of College of Engineering and Architec-  
 ture and the School of Chemistry  
 Co-operation of land-grant colleges of engineering with state and municipal departments.  
*Proceedings of the Thirty-eighth Annual Convention of the Association of Land-  
 Grant Colleges*. November 12-14, 1924, 1925. Pages 346-53.

### CIVIL ENGINEERING

- FRED C. LANG, C.E., Associate Professor of Highway Engineering  
 Discussion on weighing concrete aggregates. *American Highways* 4, No. 2:5. 1924.

### ELECTRICAL ENGINEERING

- GEORGE D. SHEPARDSON, M.A., M.E., D.Sc., Professor of Electrical Engi-  
 neering and Head of the Department of Electrical Engineering  
 Elements of electrical engineering. New York: Macmillan Company, July, 1924. 344  
 pages, 125 figures.

- FRANKLIN W. SPRINGER, E.E., Professor of Electrical Engineering  
 At what are we aiming and with what? *Engineering Education Bulletin of the S. P. E. E.*  
 14:10. June, 1924.  
 Function plans of new unit (Electrical Building). *Minnesota Techno-Log.* March, 1924.  
 Function and service of new unit (Electrical Building). *Ibid.* March, 1925.  
 1925.

## MATHEMATICS AND MECHANICS

- HANS H. DALAKER, Ph.D., Professor of Mathematics and Mechanics  
 On the automorphic functions of the group (0, 3; 2, 4, 6). *Annals of Mathematics*  
 25:241-60. 1924.
- JACOB OSCAR JONES, M.C.E., Associate Professor of Hydraulics  
 New tables for computing loss of head in pipes. *Engineering News-Record* 94:240-42.  
 1925.
- RAYMOND RUSSELL HERRMANN, E.E., Assistant Professor of Mathematics  
 and Mechanics  
 Power-factor rate clauses. *Electrical World* 85:12. December 27, 1924.
- GEORGE C. PRIESTER, B.E., M.S., Assistant Professor of Mathematics and  
 Mechanics  
 The determination of Poisson's ratio. *Minnesota Techno-Log.* 8:10. 1925.
- H. LYLE SMITH, M.S., Assistant Professor of Mathematics and Mechanics  
 On the Ampere-Cauchy derived functions. *Annals of Mathematics* (series 2) 25:123-36.  
 1923.

## MECHANICAL ENGINEERING

- JOHN FLODIN, B.S., M.E., Assistant Professor of Machine Design  
 Better methods in the drafting room. *Industrial Management* 67, No. 5: 293-96. 1924.
- THOMAS P. HUGHES, Instructor in Forge Practice  
 Strength of welds and some contributing factors. *Minnesota Techno-Log* 5:14-15, 27.  
 March, 1925; *Journal of Blacksmiths and Droppforgers.* April, May, 1925.

## THE DEPARTMENT OF AGRICULTURE

## AGRICULTURAL BIOCHEMISTRY

- ROSS AIKEN GORTNER, Ph.D., Professor of Agricultural Biochemistry and  
 Chief of the Department of Biochemistry  
 Observations on the mechanism of the tyrosine-tyrosinase reaction. *Proceedings of the  
 Society for Experimental Biology and Medicine* 21:543-45. 1924.
- An immunological and chemical study of the alcohol-soluble proteins of cereals (with  
 H. Gideon Wells, J. H. Lewis, and W. F. Hoffman). *Ibid.* 22:185-87. 1924.
- Research fundamental to the solving of crop-plant problems. V. Biochemistry. *Journal  
 of the American Society of Agronomy* 16:607-14. 1924.
- Über die Herkunft des bei der Säurehydrolyse der Eiweisskörper gebildeten Humins in  
 besonderer Beziehung auf die Kritik von S. Edlbacher. *Zeitschrift für physiologische  
 Chemie* 139:95-96. 1924.
- Inexpensive lantern slides for text or tabular data. *Science* 60:162. 1924.
- Biological chemical nomenclature. *New Edition of Industrial and Engineering Chemistry*  
 2:5. 1924.

Recognizing scholarship attainments. *The Register of Phi Lambda Upsilon* 9:31-37. 1924.  
 Evidence of a new amino acid in proteins (with W. F. Hoffman). *Journal of the American Chemical Society* 47:580-84. 1925.

Physico-chemical studies on proteins. I. The prolamines—their chemical composition in relation to acid and alkali binding (with W. F. Hoffman). *Colloid Symposium Monograph* 2:209-368. 1925.

*Reviews of*

Jerome Alexander, Colloid chemistry. *Industrial and Engineering Chemistry* 16:1290. 1924.

Herbert Freundlich, Grundzüge der Kolloidlehre. *Journal of Chemical Education* 2:157-58. 1925.

Assistant editor, *Chemical Abstracts*.

CLYDE H. BAILEY, Ph.D., Professor of Agricultural Biochemistry

The quality of gluten of flour mill streams as determined by the viscosity of water suspensions (with Julius Hendel). *Cereal Chemistry* 1:320-24. 1924.

Carbon dioxide diffusion ratio of wheat flour doughs as a measure of fermentation period (with Arnold H. Johnson). *Ibid.* 1:293-304. 1924.

A physico-chemical study of cracker dough fermentation (with Arnold H. Johnson). *Ibid.* 1:327-410. 1924.

The proteases of baker's yeast (with Aksel G. Olsen). *Ibid.* 2:68-86. 1925.

Gluten of flour and gas retention of wheat flour doughs (with Arnold H. Johnson). *Ibid.* 2:95-106. 1925.

Report of the state testing mill, crop season of 1923 (with R. C. Sherwood). Minnesota State Department of Agriculture. *Bulletin* 37. 1924.

The teaching of biochemistry. *Journal of Chemical Education* 2:130-32. 1925.

LEROY S. PALMER, Ph.D., Professor of Agricultural Biochemistry

Minerals for farm animals. St. Paul: University of Minnesota Agricultural Experiment Station. *Special Bulletin*, No. 94. 1924. 8 pages.

The rennin coagulation of milk. *Industrial and Engineering Chemistry* 16:974. 1924.

The relation of diet to bone and tooth growth. *Proceedings of the Forty-second Annual Meeting of the Minnesota State Dental Association*. 1925.

JOHN J. WILLAMAN, Ph.D., Associate Professor of Agricultural Biochemistry

A statistical study of the composition of potato tubers (with Rodney M. West). *Minnesota Studies in Plant Science, Studies in the Biological Sciences* 5:211-27. 1924.

The development of a sorghum sirup industry. *Chemical and Metallurgical Engineering* 31:844-47. 1924.

WALTER F. HOFFMAN, Ph.D., Assistant Professor of Agricultural Biochemistry

Differential absorption of anions by varieties of cotton (with J. A. Harris and J. V. Lawrence). *Proceedings of the Society for Experimental Biology and Medicine* 22:350-52. 1925.

The reaction of the cotton plant (with J. A. Harris and A. H. Johnson). *Science* 61:65. 1925.

*Review of*

Colloid symposium monograph. II. Papers presented at the Second National Symposium on Colloid Chemistry. *Cereal Chemistry* 2:172-75. 1925.

W. MARTIN SANDSTROM, B.A., M.S., Instructor in Agricultural Biochemistry  
Proline and tryptophane as factors influencing the accuracy of Van Slyke's method for the determination of nitrogen distribution in proteins (with R. A. Gortner) *Journal of the American Chemical Society* 47:1663-71. 1925.

REGINALD C. SHERWOOD, Ph.D., Instructor in Agricultural Biochemistry  
Report of survey of 1924 Minnesota wheat crop. Minnesota State Department of Agriculture. *Bulletin* 36. 1924. 12 pages.  
The chemist and the flour mill. *The Millers Review and The Dixie Miller* 87, No. 6. June, 1925. 4 pages.

### AGRICULTURAL ECONOMICS

JOHN D. BLACK, Ph.D., Professor of Agricultural Economics and Chief of the Division of Agricultural Economics

Introduction to production economics. (Mimeograph edition.) Ann Arbor: Edwards Bros. 1924-25. 370 pages.

Input as related to output in farm organization and cost-of-production studies (with H. R. Tolley and M. J. B. Ezekiel). United States Department of Agriculture. *Bulletin* 1277. 1924. 44 pages.

Economic aspects of creamery organization (with E. S. Guthrie). St. Paul: University of Minnesota Agricultural Experiment Station. *Technical Bulletin* 26. 1924. 111 pages.

Land settlement and colonization in the Great Lakes states (with L. C. Gray of the United States Department of Agriculture). United States Department of Agriculture. *Bulletin* 1295. 1923. 88 pages.

Economic aspects of local potato warehouse organization (with Budd A. Holt and George M. Peterson). St. Paul: University of Minnesota Agricultural Experiment Station. *Technical Bulletin* 28. 1925. 75 pages.

Costs and margins in marketing (with H. B. Price). *The Annals* 118:184-200. 1925.

The rôle of public agencies in the internal readjustments of the farm. *Journal of Farm Economics* 7:153-75. 1925.

What a college course in marketing should contain. *Proceedings of the National Association of Marketing Officials*. 1924. 8 pages.

#### Reviews of

John R. Commons, The legal foundations of capitalism. *Literary Supplement to New York Evening Post*. September 20, 1924. 4 pages.

G. F. Warren and F. A. Pearson, The agricultural situation. *American Economic Review* 15:309-12. 1925.

W. J. Spillman and Emil Lange, The law of diminishing returns. *Journal of Farm Economics* 7:274-80. 1925.

Edward O. Wiest, Agricultural organization in the United States. *Ibid.* 6:378-80. 1924.

HOLBROOK WORKING, Ph.D., Associate Professor of Agricultural Economics

Monthly pig iron production, 1884-1902: an analysis of a problem in correlation. *Journal of the American Statistical Association* (n.s.). 147:381-86. 1924.

Monetary stabilization. *American Economic Review, Supplement* 15:82-84. 1925.

Minnesota Potato Market Letter 1, Nos. 1-5.

Factors affecting the price of Minnesota potatoes. St. Paul: University of Minnesota Agricultural Experiment Station. *Technical Bulletin* 29. February, 1925.

Bank deposits as a business barometer. *Review of Economic Statistics*. 1925.

Factors influencing price differentials between potato markets. *Journal of Farm Economics*. 1925.

PERCY M. LOWE, M.A., Instructor in Agricultural Economics

Will potatoes yield profits in 1925? *The Farmer* 43:5. April 25, 1925.

## AGRICULTURAL ENGINEERING

HARRY B. ROE, B.S. in Eng., Associate Professor of Agricultural Engineering

- Farm drainage methods (survey and design). St. Paul: University of Minnesota Agricultural Experiment Station. *Bulletin* 216. 1924. 71 pages.  
 Farm drainage methods (construction). St. Paul: University of Minnesota Agricultural Experiment Station. *Bulletin* 217. 1924. 44 pages.

EARL A. STEWART, B.Pd., B.S., Associate Professor of Agricultural Physics

- The Minnesota project, the utilization of electricity in agriculture. *C. R. E. A. Bulletin* No. 40. 1925. 7 pages.  
 The Red Wing line-bulletin. Minnesota Committee on Relation of Electricity to Agriculture. 16 pages.  
 Problems on the utilization of electricity in agriculture. *Ibid.* 3:10-11. 1924.  
 Push button farming is nearing reality at Red Wing. *The Agricultural Student* (O.S.U.) 31:205-7. 1925.  
 Proper installation of warm air heating. *Agricultural Engineering* 6, No. 3:52-57. 1925.  
 Address on furnace installation. *American Artisan and Hardware Record* 89, No. 6:29-30, No. 8:19-21. 1925.  
 Heat energy must change to radiant energy before it can radiate. *Ibid.* 89, No. 23:28-29. 1925.  
 Return cold air ducts. *Furnaces and Sheet Metals* 4, No. 1:13-15. 1924.  
 Locating the warm air register. *Ibid.* 4, No. 5:17-19. 1924.  
 Installing heating plants in old houses. *Ibid.* 4, No. 6:29-31. 1924.

HALL B. WHITE, B.S. in Agr., Assistant Professor of Farm Buildings

- Potato growing. St. Paul: University of Minnesota Agricultural Extension Division. *Special Bulletin* No. 85. 1924. Pages 17-18.  
 Storing potatoes on the farm. St. Paul: University of Minnesota Agricultural Extension Division. *Circular* 18. 1924. Pages 2-3.

J. GRANT DENT, Instructor in Agricultural Engineering

- Rope work. *Mechanical Training Series* 3. St. Paul: Metropolitan Print Shop. 1925. 44 pages.

## AGRICULTURE

PAUL E. MILLER, M.Agr., Superintendent of West Central School and Station

- Report of the West Central Experiment Station, Morris, 1924. St. Paul: University of Minnesota Agricultural Experiment Station. 1924. 45 pages.

CONRAD G. SELVIG, M.A., Superintendent of Northwest School of Agriculture

- Report of Northwest Experiment Station, January, 1925. St. Paul: University of Minnesota, Department of Agriculture. *Crookston Series* 18: No. 1. 1925. 75 pages.  
 The idealism of the farm school. *Northwestern Miller*. April, 1925.

KATHARINE KESTER, B.A., Instructor in Rhetoric

- The Christmas child comes in: a play in two acts and a prolog. Boston: Walter H. Baker Co. 1925. 50 pages.  
 Penny a flower: a play in one act. *Drama* 15:59-63. 1924.  
 The farmer and the play. *Ibid.* 15:36. 1924.  
 The day of the diploma. *Journal of the National Education Association* 14:117. 1925.  
 Commencement with variations. *Christian Science Monitor*. June 4, 1925.

## AGRONOMY AND FARM MANAGEMENT

ANDREW BOSS, Professor of Agronomy and Farm Management, Chief of the Division of Agronomy and Farm Management, and Vice-Director of the Experiment Station

The thirty-second annual report of the Minnesota Agricultural Station, July 1, 1925 to June 30, 1925 (with W. C. Coffey). Three parts. Minneapolis: University of Minnesota. 1925.

HERBERT KENDALL HAYES, D.Sc., Professor of Plant Breeding

Methods of corn breeding (with Lee Alexander). St. Paul: University of Minnesota Agricultural Experiment Station. *Bulletin* 210. 1924. 22 pages.

Recommended varieties of farm crops for Minnesota (with A. C. Army). St. Paul: University of Minnesota Agricultural Extension Division. *Circular* 19. 1925. 3 pages.

Rust resistance in timothy (with H. D. Barker). *Phytopathology* 14:363-71. 1924.

Frequency of mutations for chlorophyll-deficient seedlings in maize (with H. E. Brewbaker). *Journal of Heredity* 15:497-502. 1924.

The inheritance of grain color in wheat (with D. W. Robertson). *Journal of the American Society of Agronomy* 16:787-90. 1924.

*Abstracts of*

S. Lewicki. O samozapadnianiu i metodyce krzyzowania pszenicy. *Botanical Abstracts* 13:740. 1924.

F. L. Engledow and S. M. Wadham. Investigations on yield in the cereals. *Ibid.* 13:1066. 1924.

V. Lathouwers, L'amelioration des plantes de la grande culture. *Ibid.* 14:47. 1925.

ALBERT CEDRIC ARNY, M.S., Associate Professor of Agronomy and Farm Management

Field beans for Minnesota (with F. H. Steinmetz). St. Paul: University of Minnesota Agricultural Extension Division. *Special Bulletin* 96. 1924. 8 pages.

Seed flax as a farm crop in 1925 (with A. C. Dillman, Clyde McKee, T. E. Stoa, and A. N. Hume). United States Department of Agriculture. *Circular* 341. 1925. 13 pages.

Report of committee on standardization of field experiments (with A. T. Wiancko, S. C. Salmon, H. H. Love, and C. A. Mooers). *Journal of the American Society of Agronomy* 16:1-16. 1924.

Methods of making determinations and interpreting results in grain grading (with C. S. Dorchester). *Ibid.* 16:488-506. 1924.

FORREST W. MCGINNIS, M.S., Assistant Professor of Agronomy

Sugar beets in Minnesota. St. Paul: University of Minnesota Agricultural Experiment Station. *Special Bulletin* 90. March, 1925. 12 pages.

The relative value of annual white, biennial white, and biennial yellow sweet clovers (with A. C. Army). *Journal of the American Society of Agronomy* 16:384-96. 1924.

OLAF S. AAMODT, M.S., Associate Pathologist, U.S.D.A.

Inheritance in wheat of resistance to black stem rust (with H. K. Hayes and E. C. Stakman). *Phytopathology*. 15:371-87. 1925.

Physiologic evidence on the genetic identity of natural and synthetic strains of wild emmer (with M. N. Levine). *Ibid.* 15:554-58. 1925.

FRED GRIFFEE, Ph.D., Instructor in Agronomy and Farm Management

Correlated inheritance in barley of botanical characters and manner of recreation to *Helminthosporium sativum*. *Journal of Agricultural Research* 30, No. 6. April, 1925.

- Factor relations in barley species crosses (Abstract). *Anatomical Record* 26:384. 1923.
- Abstracts of
- G. Von Ubisch, Beitrag zur einer Faktorenanalyse von Gerste. *Botanical Abstracts* 13:136. 1924.
- F. Laibach, Frucht- und Samenbildung bei Heterostylen Linum-Arten. *Ibid.* 14:46. 1925.
- H. Raum, Untersuchungen über die Bedeutung morphologischer Eigenschaften der Getreidepflanzen. *Ibid.* 14:50. 1925.
- F. Vierhapper, Neue pflanzenhybriden 4. *Trisetum handelii*. *Ibid.* 14:52. 1925.

## ANIMAL HUSBANDRY

EVAN F. FERRIN, B.S.A., M.Agr., Professor of Animal Husbandry and Assistant Animal Husbandman

- A comparison of wheat by-products for growing pigs. St. Paul: University of Minnesota Agricultural Experiment Station. *Bulletin* 219. 1924. 12 pages.
- Some economic factors in the production of pork. St. Paul: The University of Minnesota Agricultural Extension Division. *Minnesota Farmers' Institute Annual* 37:83-86. 1924.
- Liberal or limited grain the hog grower's problem. *Ibid.* 37:109-10. 1924.
- Corn alone makes a poor feed for hogs. *Ibid.* 37:118-20. 1924.
- Feed requirements and cost of grains of spring and fall pigs (with M. A. McCarty). *Ibid.* 37:149-58. 1924.
- Saving young pigs. *The Breeders' Gazette* 87:341-42. 1925.

HENRY WILLIAM VAUGHAN, M.Sc. in Agr., Professor of Animal Husbandry

- Fattening baby beeves. *Minnesota Farmers' Institute Annual* 37:15-20. 1924.
- Wintering the cow herd in beef production. *Ibid.* 37:71-76. 1924.
- Some leading factors affecting market prices of beef cattle. *Ibid.* 37:47-51. 1924.
- Fattening beef calves for market. *Successful Farming* 23, No. 2:66, 78-79. 1925.
- Shall we use an inbred sire? *The Dairy Farmer* 23, No. 2:6-7. 1925.
- Shall we practice inbreeding? *Ibid.* 23, No. 3:10-11, 28-29. 1925.
- Noted Guernseys produced by inbreeding. *Ibid.* 23, No. 5:6-7, 26-27. 1925.
- Blood concentration in modern Holsteins. *Ibid.* 23, No. 6:10-11, 32-35. 1925.
- Noted Jerseys produced by inbreeding. *Ibid.* 23, No. 7:14, 34-35. 1925.
- What happens during pregnancy? *Ibid.* 23, No. 8:6-7, 26-27. 1925.

PHILIP A. ANDERSON, B.S. in Agr., Assistant Professor of Animal Husbandry

- Sheep raising in Minnesota. St. Paul: University of Minnesota Agricultural Extension Division. *Special Bulletin* No. 87. July, 1924. 12 pages.

MARK A. McCARTY, M.S., Assistant Professor of Animal Husbandry

- The importance of pasture and forage crops in hog raising. *Minnesota Farmers' Institute Annual* 37:103-7. 1924.
- Mineral compounds for swine. *Ibid.* 37:120-23. 1924.
- Hogging down a good way to fatten pigs. *Ibid.* 37:124-27. 1924.

## DAIRY HUSBANDRY

CLARENCE H. ECKLES, M.S., D.Sc., Professor of Dairy Husbandry, and Chief of the Division of Dairy Husbandry

- Raising the dairy calf when whole milk is sold (with T. W. Gullickson). St. Paul: The University of Minnesota Agricultural Experiment Station. *Bulletin* 215. 1924. 30 pages.



- Feeding the dairy herd (with O. Schaefer). St. Paul: The University of Minnesota Agricultural Experiment Station. *Bulletin* 218. 1924. 43 pages.
- Yeast as a supplementary feed for calves (with V. M. Williams, J. W. Wilbur, L. S. Palmer, and H. M. Harshaw). *Journal of Dairy Science* 7:421-39. 1924.
- Condensed and powdered buttermilk for dairy calves (with T. W. Gullickson). *Ibid.* 7:213-21. 1924.
- Yeast as a supplementary feed for lactating cows (with V. M. Williams). *Ibid.* 8:89-93. 1925.
- The minimum protein requirements for growing dairy heifers (with Ragsdale and Swett). *Missouri Agricultural Experiment Station Research Bulletin* 66:1-154. 1924.
- Editor, dairy column. *Farm, Stock and Home and Northwest Farmstead.* 1924-25.
- Editorial Board. *Journal of Dairy Science.*

THOR W. GULLICKSON, M.S., Assistant Professor of Dairy Husbandry

- Raising the dairy calf when whole milk is sold. St. Paul: University of Minnesota Agricultural Extension Division. *Special Bulletin* 91. September, 1924. 12 pages.

WILLIAM E. PETERSON, M.S., Assistant Professor of Dairy Husbandry

- Judging dairy cattle. St. Paul: University of Minnesota Agricultural Extension Division. *Special Bulletin* No. 92. 1924. 36 pages.
- Adulterated acid as a possible source of error in testing milk by the Babcock method. *Journal of Dairy Science* 7:361-69. 1924.

HAROLD MACY, B.S., Assistant Professor of Dairy Bacteriology

- Producing and handling milk on the farm. St. Paul: University of Minnesota Agricultural Extension Division. *Special Bulletin* No. 95. March, 1925. 8 pages.
- Care of the milking machine. St. Paul: University of Minnesota Agricultural Extension Division. *Circular* 21. March, 1925. 4 pages.

RAYMOND B. BECKER, M.S., Instructor in Dairy Husbandry

- Calculating the average production of a dairy herd. *Journal of Dairy Science* 8:105-14. 1925. (Paper 511 of the Journal Series of the Minnesota Agricultural Experiment Station.)

ENTOMOLOGY AND ECONOMIC ZOOLOGY

WILLIAM A. RILEY, Ph.D., Professor of Entomology and Economic Zoology and Chief of the Division of Entomology and Economic Zoology

- Animal parasites of man. In E. T. Bell, and others, *Outlines of pathology.* Minneapolis: University of Minnesota. 1924. Pages 516-70.
- Boils in wild rabbits. *American Fox and Fur Farmer* 4:21. January, 1925.
- The ubiquitous house-fly. *The Nation's Health* 7:322-23. 1925.
- The wicked flea. *Ibid.* 7:406-7.
- Echinococcus cyst in the scapular area (with M. Joannides). *Archives of Surgery* 9:537-44. 1924.
- Reviews and abstracts of parasitological literature. *Abstracts of Bacteriology.*

SAMUEL A. GRAHAM, Ph.D., Assistant Professor of Entomology

- The felled tree as an ecological unit. *Journal of Ecology* 6, No. 4:397-411. 1925.
- Two dangerous defoliators of jack pine. *Journal of Economic Entomology* 18:337-45. 1925.

CLARENCE E. MICKEL, Ph.D., Instructor in Entomology

- Poisoning pocket gophers. St. Paul: University of Minnesota Agricultural Extension Division. *Circular* 14. 1923. 4 pages.
- Preliminary notes on the mutillidae of Minnesota with descriptions of three new species. *Nineteenth Report of the State Entomologist of Minnesota.* 1923. Pages 97-113.

- A revision of the mutillid wasps of the genera *Myrmilloides* and *Pseudomethoca* occurring in America north of Mexico. *Proceedings of the United States National Museum* 64:1-51. 1924.
- An analysis of a bimodal variation in size of the parasite *Dasymutilla bioculata* Cresson (*Hymenoptera: Mutillidae*). *Entomological News* 35:236-42. 1924.
- Notes on *Zygocystis cometa* Stein, a gregarine parasite of earthworms. *Journal of Parasitology* 11:135-39. 1925.

## FORESTRY

JOHN H. ALLISON, Ph.B., M.F., Professor of Forestry

- Twenty years' growth of planted Norway, jack, Scotch, and white pine in north central Minnesota. *Journal of Forestry* 21:796-806. 1923.
- Bjurfore Kronopark. *Ibid.* 22:315-17. 1924.
- Swedish forestry. *The Gopher Countryman* 2:7-8. November, 1924.
- Farming and colonization in Sweden. *Ibid.* 2:9-10. December, 1924.

THORVALD SCHANTZ-HANSEN, B.S., M.F., Assistant Professor of Forestry

- Reviews of*  
The cultivation of larch in Denmark. *Det Forstlige Forsogsvaesen i Danmark* 7. 1923;  
*Journal of Forestry* 22:559-61. 1924.
- Abstracts of Vol. 5-6 *Det Forstlige Forsogsvaesen i Danmark*, 1916-22. *Botanical Abstracts*.

## HOME ECONOMICS

ALICE BIESTER, M.A., Associate Professor of Home Economics

- Carbohydrate studies. I. The relative sweetness of pure sugars (with Mildred Weigley Wood and Cecile Stone Wahlin). *American Journal of Physiology* 73:387-96. 1925; II. The relative sweetness of invert sugar (with J. J. Willaman and Cecile Stone Wahlin). *Ibid.* 73:397-400. 1925.

## HORTICULTURE

WILFRED G. BRIERLEY, M.S., Associate Professor of Horticulture

- The cost of producing apples in Minnesota (with W. J. Koppen and G. A. Pond). St. Paul: University of Minnesota Agricultural Experiment Station. *Bulletin* 209. 1924.
- Trying to tame the blueberry in Minnesota. *American Fruit Grower* 44, No. 8:4, 11. 1924.
- The cost of producing apples in Minnesota. *Minnesota Horticulturist* 52, No. 8:239-42. 1924.
- Trial stations for Minnesota. *Ibid.* 52, No. 9:259-62. 1924.
- Fruit list for Minnesota. *Ibid.* 53, No. 1:26-28. 1925.

FRED A. KRANTZ, Ph.D., Assistant Professor of Horticulture

- Potato growing (with J. G. Leach, A. G. Ruggles, G. H. Nesom, and H. B. White). St. Paul: University of Minnesota Agricultural Experiment Station. *Bulletin* 25. 1924. 32 pages.
- Potato breeding methods. St. Paul: University of Minnesota Agricultural Experiment Station. *Technical Bulletin* 25. 1924. 32 pages.
- Variations in yield between seed stocks of a variety (with A. G. Tolaas). *Proceedings of the Eleventh Annual Meeting of the Potato Association of America*. 1924. Pages 45-48.
- On the relative value of certain methods of potato breeding. *Ibid.* 1924. Pages 40-44.
- Successfully raising potatoes. *Calendar*. St. Paul: Brown and Bigelow. 1924. 3 pages.

Some aspects of truck growing on peat lands in Minnesota. *Journal of the American Peat Society*. 1925. 3 pages.

JOHN H. BEAUMONT, Ph.D., Instructor in Horticulture

Preliminary report on the respiration of apple twigs during the winter. *Proceedings of the American Society for Horticultural Science*. 1924. Pages 99-104.

### PLANT PATHOLOGY AND BOTANY

ELVIN C. STAKMAN, Ph.D., Professor of Plant Pathology and Botany and Plant Pathologist

Reaction of barley varieties to *Helminthosporium sativum* (with H. K. Hayes, Fred Griffiee, and J. J. Christensen). St. Paul: University of Minnesota Agricultural Experiment Station. *Technical Bulletin* 21. 1924. 47 pages.

*Puccinia graminis poae* Erikss. and Henn. in the United States (with M. N. Levine). *Journal of Agricultural Research* 28. 1924.

The effect of fertilizers on the development of stem rust of wheat (with O. S. Aamodt). *Journal of Agricultural Research* 27:341-79. 1924.

Varietal resistance of spring wheat to *Tilletia levis* (with E. B. Lambert and H. H. Flor). *Minnesota Studies in Plant Science. Studies in the Biological Sciences* No. 5:307-17. September, 1924.

Cereal rust investigations in the United States. Review of the present status of the cereal rust situation in the United States. *Proceedings of the Second Cereal Rust Conference*. Winnipeg, Canada. 1924. Pages 69-77.

Reactions of selfed lines of maize to *Ustilago zeae* (with H. K. Hayes, Fred Griffiee, and J. J. Christensen). *Phytopathology* 14:268-80. 1924.

Foot and root rots of wheat in Minnesota in 1924 (with J. J. Christensen). *Ibid.* 15:53. 1925.

The control of flax rust (with A. W. Henry). *Ibid.* 15:53. 1925.

The control of loose smuts of wheat and barley and barley stripe by Uspulun, Semesan, and Germisan (with H. A. Rodenhiser). *Ibid.* 15:51. 1925.

RODNEY BEECHER HARVEY, Ph.D., Associate Professor of Plant Physiology and Botany

Grinding wood samples for analysis (with A. C. Hildreth). *Botanical Gazette* 78:460-61. 1924.

Sunscald of tomatoes. *Minnesota Studies in Plant Science. Studies in the Biological Sciences* No. 5:229-35. 1924.

Enzymes of thermal algae. *Science* (n.s.) 60:481-82. 1924.

International address list of plant physiologists. *American Society of Plant Physiologists Bulletin* 2:1-6. 1924.

Physiology of blanching celery (with L. O. Regeimbal). *Proceedings of the American Association for the Advancement of Science*, Washington, 1925, Vol. 79; *Abstract. Proceedings of the American Society of Plant Physiologists*. 1925. Page 20.

Research opportunities in Yellowstone National Park. *Science* 59:548. 1924.

Principles of plant physiology relative to frost damage. *American Rose Annual*. 1924. 54 pages.

Electric light as an aid in growing plants. A new method of blanching celery. *Minnesota Horticulturist* 53:41. 1925.

A new method for blanching celery. *Market Growers Journal* 36:264. 1925.

Ethylene gas for bleaching celery (with L. O. Regeimbal). *Gopher Countryman* 2, No. 5. February, 1925.

ARTHUR W. HENRY, Ph.D., Assistant Professor of Plant Pathology

Root rots of wheat. St. Paul: University of Minnesota Agricultural Experiment Station. *Technical Bulletin* 22. 1924. 71 pages.

Important fungous diseases of the common sunflower (with H. C. Gilbert). *Minnesota Studies in Plant Science. Studies in the Biological Sciences* No. 5:295-305. 1924.

JULIUS G. LEACH, Ph.D., Assistant Professor of Plant Pathology and Botany

The seed-corn maggot and potato blackleg. *Science* (n.s.) 61:120. January, 1925.

LOUIS O. REGEIMBAL, M.S., Instructor in Plant Pathology and Botany

*Abstracts of*

Vol. 1, Nos. 1 and 2. Minnesota studies in plant science (Studies in the Biological Sciences Nos. 4 and 5). *Botanical Abstracts* 14. 1925.

### POULTRY HUSBANDRY

ARTHUR C. SMITH, B.S., Professor of Poultry Husbandry and Chief of the Division of Poultry Husbandry

Feeding poultry for profit. St. Paul: University of Minnesota Agricultural Extension Division. *Circular* 20. 1925. 4 pages.

Summer poultry income. *The Farmer* 42:908. July 5, 1924.

The egg eating habit. *Ibid.* 42:1316. November 1, 1924.

Dried buttermilk. *Ibid.* 42:1316. November 1, 1924.

Culling. *Ibid.* 43:20. January 31, 1925.

Keep the hens laying in winter. *Ibid.* 43:14. February 7, 1925.

Are the early chicks the best? *Ibid.* 43:7. February 14, 1925.

Selecting breeding stock. *Ibid.* 43:38. February 21, 1925.

The poultry outlook. *Ibid.* 43:36. March 7, 1925.

Reducing loss. *Ibid.* 43:38. March 14, 1925.

Starting chicks with the brooder. *Ibid.* 43:26. March 28, 1925.

Raising geese. *Ibid.* 43:25. April 11, 1925.

House for cold climates. *Ibid.* 43:30. April 18, 1925.

Checking up on feed costs. *Ibid.* 43:18. May 9, 1925.

Also several short items for *News Letter*. St. Paul: University of Minnesota Agricultural Extension Division. 1924-25.

### VETERINARY MEDICINE

CLIFFORD P. FITCH, M.S., D.V.M., Professor of Animal Pathology, Chief of the Division of Veterinary Medicine, and Animal Pathologist, Agricultural Experiment Station

Observations of the effect of *B. abortus* Bang on the weight of the spleen of the guinea pig. St. Paul: University of Minnesota Agricultural Experiment Station. *Technical Bulletin* 24. 1924. 23 pages.

The present status of our knowledge of abortion disease. *Proceedings of the World's Dairy Congress* 2:1519-28. 1923.

Report of experimental work to determine whether avian tuberculosis is transmitted through the eggs of tuberculous fowls (with R. E. Lubbehusen and Ruth N. Dikmans). *Journal of the American Veterinary Medical Association* 19:43-53. 1924.

Report of the Committee on Abortion of the American Veterinary Medical Association. *Ibid.* 19:237-38. 1924.

Studies of the value of vaccines and bacterins in immunizing cattle to *Bact. abortus* (Bang) (with W. L. Boyd). *Ibid.* 18:407-24. 1924.

A study of the presence of *Bact. abortus* in the milk of cows which react to the agglutination test (with R. E. Lubbehusen). *The Cornell Veterinarian* 14:299-302. 1924.

Disease in cattle caused by feeding sweet clover hay. *Report of the Proceedings of the American Society of Animal Production*. 1923. Pages 37-41.

- Report of the committee on abortion of the United States Livestock Sanitary Association.  
*Report of the Proceedings of the Twenty-eighth Annual Meeting of the United States Livestock Sanitary Association.* 1924. Pages 44-46.  
 Assistant editor, *Abstracts of Bacteriology* 8:1-502. 1924.  
 Contributing editor, *The Cornell Veterinarian* 14:1-374. 1924.

WILLARD L. BOYD, D.V.S., Professor of Veterinary Medicine

- A study of the physiologic and pathologic changes occurring in the reproductive organs of the cow following parturition. St. Paul: University of Minnesota Agricultural Station. *Technical Bulletin* 23. 1925. 45 pages.  
 Sterility in dairy cattle. *Proceedings of the World's Dairy Congress* 2:7. 1923.  
 Mummification of the bovine fetus. *Journal of the American Veterinary Medical Association* (n.s.) 18, No. 16:737-44. 1924.  
 The pathology and treatment of sterility in cattle. *Proceedings of the Ohio State Veterinary Medical Association.* 1925.

HOWARD C. H. KERNKAMP, D.V.M., Assistant Professor of Veterinary Medicine

- Flukes of the genus *Collyriclum* as parasites of turkeys and chickens. *Journal of the American Veterinary Medical Association* 17:591-99. 1924.  
 Goiter in poultry. *Ibid.* 20:223-29. 1925.  
 Sanitation in hog pens and hog lots. *Minnesota Farmers' Institute Annual* 37:115-18. 1924.

RAYMOND E. LUBBEHUSEN, D.V.M., B.S., Assistant Professor of Comparative Pathology

- Preliminary report on the presence of tubercle bacilli in the eggs of tuberculous fowls (with C. P. Fitch and Ruth Dikmans). *Abstracts of Bacteriology* 8, No. 1. 1924. 22 pages.

### AGRICULTURAL EXTENSION

WILLIAM LANE CAVERT, M.S., Assistant Professor of Farm Management and Extension Specialist

- Ups and downs in beef cattle. *Farm, Stock and Home* 40:535-39. 1924.  
 Which type of cattle—dairy, beef or dual purpose. *Farm, Stock and Home-Northwest Farmstead*, Consolidated 41:3-6. 1925.  
 Making plans ahead for 1925. *Ibid.* 41:1-13. 1925.  
 Future of the horse business. *Ibid.* 41:50-51. 1925.

ROGER S. MACKINTOSH, M.S. in Agr., Assistant Professor of Horticulture, and Horticultural Specialist

- New plums while you wait. *The Farm Journal* 49, No. 4:36-38. April, 1925.  
 Editor, Horticultural page of *The Farmer*. St. Paul. 1924-25.

RAYMOND C. ROSE, M.S., Instructor in Plant Pathology

- Treating seed potatoes with hot formaldehyde. St. Paul: University of Minnesota Agricultural Experiment Station. *Circular* 22. 1925. 4 pages.

### THE LAW SCHOOL

EVERETT FRASER, B.A., LL.B., Dean of the Law School and Professor of Law

- The rules against restraints on alienation, and against suspension of the absolute power of alienation in Minnesota. *Minnesota Law Review* 9:314-52. 1924-25.

ROBERT JUSTIN MILLER, B.A., LL.B., J.D., Professor of Law

An institute of procedural law. *American Bar Association Journal* 11:323-28. 1925.

Jury triers. *Minnesota Law Review* 9:353-61. 1925.

The public defender. *Proceedings of the Second Annual Meeting of the National Associations of Legal Aid Organizations* 2:34-41. 1924.

*Reviews of*

E. A. Sutherland, Criminology. *Minnesota Law Review* 9:586-88. 1925.

W. A. Owen's law quizzer. *Ibid.* 9:695. 1925.

HENRY ROTTSCHAEFER, B.A., J.D., S.J.D., Professor of Law

Valuation in rate cases. *Minnesota Law Review* 9:211-40. 1925.

Massachusetts trust under federal tax law. *Columbia Law Review* 25:305-16. 1925.

*Reviews of*

Powell, Tiffany's handbook of the law of principal and agent. *Columbia Law Review* 25:386-87. 1925.

Powell, Cases on agency. *Ibid.* 25:386-87. 1925.

Richardson, The constitutional doctrines of justice, Oliver Wendell Holmes. *Minnesota Law Review* 9:171-72. 1925.

HENRY L. MCCLINTOCK, Ph.B., LL.B., S.J.D., Assistant Professor of Law

The administrative determination of public land controversies. *Minnesota Law Review* 9:420-41, 542-54, 638-56. 1925.

*Review of*

Zechariah Chafee, Cases on equitable relief against torts. *Minnesota Law Review* 9:299-300. 1925.

## THE MEDICAL SCHOOL

ELIAS P. LYON, Ph.D., M.D., Professor of Physiology and Dean of the Medical School

Further data on alleged lack of physicians and distribution of irregular practitioners. *American Medical Association Journal* 80:718. March 10, 1923.

Report on the Medical School of the University of Kansas. *Journal of the Kansas Medical Society* 23:284-87. October, 1923.

Medical school, medical profession, and public welfare. *Journal-Lancet* 42:375-80. August 1, 1922.

Report on the Medical School of the University of Kansas. Department of the Interior. *Bulletin* No. 40. 1923. Pages 133-40.

The spleen (popular science article). *Hygeia*. May, 1925.

## ANATOMY

CLARENCE M. JACKSON, M.S., M.D., LL.D., Professor of Anatomy and Head of the Department of Anatomy

The effects of inanition and malnutrition upon growth and structure. Philadelphia: P. Blakiston's Son and Company. 1925. 616 pages.

The rôle of research in medicine. *Science* 60:227-33. 1924; *Reprint and Circular Series of the National Research Council* No. 57. 1924. 14 pages.

Compensatory renal hypertrophy after unilateral nephrectomy in albino rats with spontaneous nephritis. *Proceedings of the American Association of Anatomists. Anatomical Record* 29:363. 1925.

Spontaneous nephritis and compensatory renal hypertrophy in albino rats on diet deficient in vitamin A. *Proceedings of the Society for Experimental Biology and Medicine* 22:410-13. 1925.

## RICHARD E. SCAMMON, Ph.D., Professor of Anatomy

- A summary of the anatomy of the infant and child. *Abt's Pediatrics* 1:257-444. 1924.
- Fetal malformations. *Ibid.* 6:654-82. 1925.
- On the growth of the human eyeball and optic nerve (with E. L. Armstrong). *Journal of Comparative Neurology* 38:165-219. 1925.
- On the growth of the human cerebellum in early life (with H. I. Dunn). *Proceedings of the Society for Experimental Biology and Medicine* 21:217-21. 1924.
- The relation between body-length and body-weight in the human embryo and fetus (with L. A. Calkins). *Ibid.* 21:549-55. 1924.
- The relation between the body-weight and age of the human fetus (with L. A. Calkins). *Ibid.* 22:157-61. 1924.
- Empirical formulae for the proportionate growth of the human fetus (with L. A. Calkins). *Ibid.* 22:353-57. 1925.
- Abstract.* Crown-heel and crown-rump length in the fetal period and at birth (with L. A. Calkins). *Anatomical Record* 29:372-73. 1925.

## ANDREW T. RASMUSSEN, Ph.D., Assistant Professor of Neurology

- Some points on the innervation of the chest. *Minnesota Medicine* 7:476-83. 1924.
- A quantitative study of the human hypophysis cerebri or pituitary body. *Endocrinology* 8:509-24. 1924.
- The relative number of the different types of cells in pars anterior of the normal adult male hypophysis. Abstract for proceedings of the American Association of Anatomists, April, 1925. *Anatomical Record* 29:394. 1925.
- Abstracts of all articles of endocrine bearing appearing in Zeitschrift für Anatomie und Entwicklungsgeschichte, Zeitschrift für Konstitutionslehre und Ergebnisse der Anatomie und Entwicklungsgeschichte during the year.*

## BACTERIOLOGY

## WINFORD P. LARSON, M.D., Professor of Bacteriology and Immunology and Director of the Department of Bacteriology and Immunology

- The antigenic properties of pneumococci and streptococci treated with sodium ricinoleate (with Edmond Nelson). *Proceedings of the Society for Experimental Biology and Medicine* 22:357-58. 1925.
- The effect of sodium ricinoleate upon bacterial toxins, and the value of soap-toxin mixtures as antigens (with R. D. Evans and E. Nelson). *Ibid.* 22:194-96. 1924.
- Immunization against scarlet fever using sodium ricinoleate as a detoxifying agent (with W. Colby). *Ibid.* 22:549-50. 1925.
- The effect of concentration upon the neutralization of toxin by sodium ricinoleate (with H. O. Halvorson). *Ibid.* 22:550-52. 1925.
- Antidiphtheritic immunization using sodium ricinoleate as a detoxifying agent (with E. W. Hancock, and H. Eder). *Ibid.* 22:552-53. 1925.

## ARTHUR T. HENRICI, M.D., Associate Professor of Bacteriology and Immunology

- The rate of spore formation in bacteria. *Proceedings of the Society for Experimental Biology and Medicine* 22:197-99. 1924.
- On cytomorphosis in bacteria. *Science* 61:644-47. 1925.

## ROBERT G. GREEN, M.A., M.D., Assistant Professor of Bacteriology

- The mechanism and significance of the fragility test. *Proceedings of the Society for Experimental Biology and Medicine* 22:308-11. 1925.
- The fragility of erythrocytes in obstructive jaundice and pernicious anemia. *Ibid.* 20:291-92. 1923.
- Insulin and body temperature (with Maurice B. Visscher). *The American Journal of Physiology* 71:3. 1925.

- Inhomogeneous systems with applications to suspensions of blood cells (with F. H. MacDougall). *Journal of Infectious Diseases* 36:330-40. 1925.
- The effect of surface energy on colloidal equilibrium (with H. O. Halvorson). Read at Second National Colloid Symposium. 1924.
- Distemper in the silver fox (*culpes vulpes*). *Proceedings of the Society for Experimental Biology and Medicine* 22:546-48.
- Bacteriological research on fox distemper. *Fox Breeders Gazette*. May, 1925.

HALVOR O. HALVORSON, M.S., Instructor in Bacteriology and Immunology  
 Observations on the measurement of the pH of soap solutions. *Proceedings of the Society for Experimental Biology and Medicine* 22:358-61. 1925.

The preparation of pure sodium ricinoleate. *Ibid.* 22:553-55. 1925.

### MEDICINE

ROBERT L. STARKEY, Ph.D., Instructor in Bacteriology  
 Concerning the physiology of Thiobacillus thiooxidans, an autotrophic bacterium oxidizing sulfur under acid conditions. *Journal of Bacteriology* 10:135-63. 1925.

Concerning the carbon and nitrogen nutrition of thiobacillus thiooxidans, an autotrophic bacterium oxidizing sulfur under acid conditions. *Ibid.* 10:165-95. 1925.

GEORGE E. FAHR, B.S., M.D., Associate Professor of Medicine  
 Myxedema heart. *Journal of American Medical Association* 84:345-49. 1925.

ANGUS W. MORRISON, B.A., M.D., Associate Professor, Nervous and Mental Diseases  
 Some studies on mental hygiene needs of freshmen university students (with Harold S. Diehl). *The Journal of the American Medical Association* 83:1666-70. November 22, 1924.

ERNEST THOMSON FRASER RICHARDS, M.D., C.M., Associate Professor of Medicine  
 Treatment of the cardiac arrhythmias. *Minnesota Medicine* 7, No. 10:647-51. October, 1924.

MOSES BARRON, B.S., M.D., Assistant Professor of Medicine  
 Diseases of the pancreas: a pathological study, with report of cases. *Archives of Internal Medicine* 35:807-17. June 15, 1925.

ARCHIBALD H. BEARD, B.A., M.D., F.A.C.S., Assistant Professor of Medicine  
 The treatment of single cases of diabetic mellitis. *Minnesota Medicine* 7:1-4. January, 1924.

CHAUNCEY A. MCKINLAY, B.A., M.D., Assistant Professor of Medicine  
 The vital capacity of the lungs and its significance in hyperthyroidism. *Archives of Internal Medicine* 34:168-76. 1924.

Observations concerning obesity with report of cases of endogenous type. *Minnesota Medicine* 8, No. 6:354-58. 1925.

J. CHARNLEY MCKINLEY, M.D., Ph.D., Assistant Professor of Neuro-pathology  
 Neuropathology. (Chapter 10 in E. T. Bell and others, *Outlines of pathology*.) Minneapolis: University of Minnesota. 1924. Pages 194-255.



GEORGE S. STEVENSON, M.S., M.D., Director of Psychopathic Department and Assistant Professor of Psychiatry.

Cardiovascular physiology of the mental defective. *Archives of Neurology and Psychiatry* 12:507-17. 1924.

The physiology of the feeble-minded. *Ibid.* 13:497-503. 1925.

CHARLES B. WRIGHT, B.A., M.D., Assistant Professor of Medicine

Epidemic pleurodynia. *The Journal-Lancet* 44:580-81. November 15, 1924.

CARL B. DRAKE, B.A., M.D., Instructor in Medicine

The clinical significance of glycosuria. *Minnesota Medicine* 8:377-86. 1925.

EVERETT K. GEER, B.S., M.D., Instructor in Medicine

Artificial pneumothorax for acute lung abscess. *Minnesota Medicine* 8:109-13. 1925.

OLGA S. HANSEN, B.S., M.D., Instructor in Medicine

Conduction mechanism of the heart. *Minnesota Medicine* 7:633-35. October, 1924.

THOMAS ZISKIN, M.D., Instructor in Medicine

Vital capacity as a functional test in heart disease. *Archives of Internal Medicine* 35:259-65. 1925.

### OBSTETRICS AND GYNECOLOGY

JENNINGS C. LITZENBERG, Professor of Obstetrics and Gynecology and Chief of the Department of Obstetrics and Gynecology

Myomata of uterus in pregnancy. *Surgical Clinics of North America* 3:1285-1311. 1924.

Better newly-born pediatrics. *Southern Medical Journal* 17:378-81. June, 1924.

Unruptured interstitial pregnancy with anatomical and histological report of an early case. *American Journal of Obstetrics and Gynecology* 9, No. 1. 1925.

Experiences at the University of Minnesota with the requirements of the intern year as a prerequisite for the degree of doctor of medicine. *Hospital Progress* 6, No. 7. July, 1925.

FRED L. ADAIR, B.S., M.D., M.A., F.A.C.S., Associate Professor of Obstetrics and Gynecology

Purposes and benefits of maternal welfare. *Wisconsin Medical Journal* 23:178-84. 1924.

Obstetric and gynecologic conditions. *Journal-Lancet* 44:503-10. 1924.

Influences of diet on lactation. *American Journal of Obstetrics and Gynecology* 9:1-16. 1925.

The joint committee on maternal welfare, its organization and purposes. *Ibid.* 9:571-74. 1925.

RAE THORNTON LAVAKE, B.A., M.D., Assistant Professor of Obstetrics and Gynecology

A possible factor controlling the weight of the newborn. Relationship of the area of the placenta to the birth weight of the child based on observations in 100 cases. *American Journal of Obstetrics* 8:99-102. 1924.

Valuable measures in the practice of obstetrics. *Journal-Lancet* 45:59-62. 1925.

### OPHTHALMOLOGY AND OTO-LARYNGOLOGY

WILLIAM R. MURRAY, Ph.B., M.D., F.A.C.S., Professor of Ophthalmology and Oto-Laryngology and Chief of the Department of Ophthalmology and Oto-Laryngology

Visual field changes in normal pregnancy. *Minnesota Medicine* 8:277-82. 1925.

FRANK E. BURCH, M.D., F.A.C.S., Associate Professor of Ophthalmology

The influence of high blood-pressure in cataract surgery. *Northwest Medicine* 24:16-22. January, 1925.

WILLIAM W. LEWIS, M.D., F.A.C.S., Assistant Professor of Ophthalmology and Oto-Laryngology

The thief in the night—non-inflammatory glaucoma. *Minnesota Medicine* 7:500-506. 1924.  
Signs of the times—their causes and effect. *Ibid.* 8:34-38. 1925.

JOHN A. PRATT, M.D., F.A.C.S., Assistant Professor of Ophthalmology and Oto-Laryngology

Anatomy of the accessory sinuses of the nose. *Journal-Lancet* 44, No. 18:465-70. September, 1924.

The present status of the intranasal ethmoid operation. *Archives of Oto-Laryngology* 1:42-48. January, 1925.

KENNETH A. PHELPS, B.S., M.D., F.A.C.S., Instructor in Ophthalmology and Oto-Laryngology

Cellulitis of the orbit in infants and children with a report of ten cases. *Annals of Otolaryngology and Rhinology* 32:1391. 1924.

Bones impacted in the esophagus and their removal by means of esophagoscopy. *Journal-Lancet* 65:285-88. June 15, 1925.

#### ORTHOPEDICS

CARL C. CHATTERTON, M.D., F.A.C.S., Assistant Professor of Orthopedic Surgery

Osteomyelitis in children. *Minnesota Medicine* 8:91-96. 1925.

Analysis of congenital hips observed in private practice. *The Journal of Bone and Joint Surgery* 7:355-69. 1925.

#### PATHOLOGY

ELEXIOUS THOMPSON BELL, B.S., M.D., Professor of Pathology and Director of the Department of Pathology

Outlines of pathology (with other members of the department). Minneapolis: University of Minnesota. 1925. 586 pages.

Experimental glomerulonephritis (with B. J. Clawson and T. Hartzell). *American Journal of Pathology* 1:247-58. 1925.

BENJAMIN JUNIOR CLAWSON, M.D., Ph.D., Assistant Professor of Pathology

The myocardium in noninfectious myocardial failure. *American Journal of the Medical Sciences* 168:648-54. 1924.

Studies in the etiology of rheumatic fever. *Journal of Infectious Diseases* 36:444-55. 1925.

Chapters 6, 15, and 17 of E. T. Bell and others, Outlines of pathology. Minneapolis: University of Minnesota. 1925. Pages 101-16, 357-76, 388-406.

JAMES SHEARER MCCARTNEY, JR., B.A., M.D., Assistant Professor of Pathology

Chapters 8, 19, and 22 of E. T. Bell and others, Outlines of pathology. Minneapolis: University of Minnesota. 1925. Pages 122-29, 442-57, 498-515.

JOHN CHARNLEY MCKINLEY, M.D., Ph.D., Assistant Professor of Neurology

Neuropathology (Chapter 10 of E. T. Bell and others, Outlines of pathology). Minneapolis: University of Minnesota. 1925. Pages 194-255.

KANO IKEDA, M.D., Instructor in Pathology

Routine practical applications of clinical photography. *Modern Hospital* 24:50-52. January, 1925.

Blood in purpuric small pox with a clinical review of forty-eight cases. *Journal of the American Medical Association* 84:1807-13. 1925.

JOHN FRANKLIN NOBLE, M.D., Instructor in Pathology

Leprosy. Glanders (Chapter 7 of E. T. Bell and others, Outlines of pathology). Minneapolis: University of Minnesota. 1925. Pages 117-21.

WILLIAM AUSTIN O'BRIEN, M.D., Instructor in Pathology and Pathologist to the University Hospital

What the laity should know about cancer. *Minnesota Medicine* 8:11-13. 1925.

Chapters 6 and 13 of E. T. Bell and others, Outlines of pathology. Minneapolis: University of Minnesota. 1925. Pages 101-16, 302-39.

*Abstracts of*

Medical and health education of the public by the health expositions and exhibits. *Journal of American Medical Association* 84:1188. 1925.

Intracranial injury and hemorrhage in stillborn and newborn infants (with F. L. Adair). *American Journal of Diseases of Children* 29:428. 1925.

THEODORE H. SWEETSER, B.S., M.D., Instructor in Pathology

Acute pancreatitis; discussion of seven cases. *Minnesota Medicine* 8:372-77. 1925.

## PEDIATRICS

FREDERIC W. SCHLUTZ, B.A., M.D., Professor of Pediatrics and Chief of the Department of Pediatrics

Child welfare. *The Journal-Lancet* 44:457-61. 1924.

Pediatric clinic. *Ibid.* 44:481-90. 1924.

The diet in tuberculosis of children. *Ibid.* 45:165-67. 1925.

The diagnosis and treatment of nephritis in children. *Minnesota Medicine* 7:761-65. 1924.

The care and treatment of juvenile diabetes. *Ibid.* 8:30-34. 1925.

A note on the photoactivity of cod liver oil (with M. Morse). *Proceedings of the Society for Experimental Biology and Medicine* 22:555-56. 1925.

WALTER R. RAMSEY, M.D., Associate Professor of Pediatrics

Hereditary congenital absence of the salivary glands. *American Journal of Diseases of Children* 28:440. October, 1924.

Breast feeding and the common forms of malnutrition in infants and young children. *Journal-Lancet* 44:55. February, 1925.

MAX SEHAM, M.D., Assistant Professor of Pediatrics

Physical examination of normal heart of the child. *Abt's Pediatrics* 4. 1924.

Congenital heart diseases. *Ibid.* 4. 1924.

Electrocardiography in children. *Ibid.* 4. 1924.

Fatigue in school children. *Transactions: Children's Section of American Medical Association.* 1924. Pages 138-54.

The tired child. *American Journal of Public Health Nursing.* 1925.

Fatigue in the school child. *Childhood Education.* February, 1925.

Warning signals of fatigue. *Hygeia* 3:3-5. January, 1925.

DAVID M. SIPERSTEIN, B.S., M.A., M.D., Instructor in Pediatrics

Tuberculous pulmonary cavities in infancy. *American Journal of Diseases of Children* 27:586-93. June, 1924.

- Progress in pediatrics: intraperitoneal transfusion with citrated blood. *Ibid.* 29:519-22. April, 1925.
- Tuberculosis in infancy. *Minnesota Medicine* 8:89-91. February, 1925.
- Intraperitoneal transfusion with citrated blood: A further clinical study. *Ibid.* 7:657-67. October, 1924.

WILLIAM W. SWANSON, B.A., M.S., M.D., Teaching Fellow in Pediatrics

- Gold salts used in the chemotherapy of tuberculosis. *The Journal-Lancet* 45:215-17. 1925.
- A study of the occurrence of peptide nitrogen in the blood. *Proceedings of the Society for Experimental Biology and Medicine* 22:193-94. 1924.
- The effect of sodium benzoate ingestion upon the composition of the blood and urine with especial reference to the possible synthesis of glycine in the body. *The Journal of Biological Chemistry* 62:565-73. 1925.

PHARMACOLOGY

ARTHUR D. HIRSCHFELDER, B.S., M.D., Professor of Pharmacology and Director of the Department of Pharmacology

- Synthesis of medicinals. Constitution and pharmacological action, Types of drugs. Introduction to organic research. (Chapter 13, by Emmett Reid.) New York: D. Van Nostrand Co. 1924.
- Effect of insulin in experimental intoxication with alcohol and acetone (with H. C. Maxwell). *American Journal of Physiology* 70:520. 1924.
- Studies upon the vascular and capillary phenomena and supposed axon reflexes concerned in the development of edema in mustard oil conjunctivitis, together with the effects of vasodilator drugs, local anaesthetics and vital stains. *Ibid.* 70:507. 1924.
- The effects of excitement on the action of a soporific drug (sodium barbital) (with C. H. Rice). *Journal of Pharmacy and Experimental Therapy* 24:449-51. 1925.
- An easily constructed manometer. *Ibid.* 25:170. 1925.
- Blood pressure records from the abdominal aorta (with R. L. Gregory). *Ibid.* 25:170. 1925.
- Further studies on the excretion of dyes in the frog's kidney (with R. N. Bieter). *Ibid.* 25:165-66. 1925.
- The rôle of epinephrin on the production of edema by local anesthetics (with Irma Backe and Janette Jennison). *Ibid.* 24:453-57. 1925.
- Studies upon the local anesthetic and antispasmodic actions of some ethers and esters of saligenin (with H. H. Jensen). *Ibid.* 24:423-48. 1925.
- A comparison of the action of some secondary and tertiary aromatic alcohols with special reference to local anaesthesia (with J. Paul Quigley). *Ibid.* 24:405-22. 1924.
- The penetration of mercurochrome, acriflavin, and gentian violet into edematous tissues (with G. Malmgren and Donald Creavy). *Ibid.* 24:459-64. 1925.
- Observations on the therapeutic administration of camphor and strychnin as circulatory stimulants (with E. A. Hewitt). *Journal of the American Veterinary Medical Association* 66, n.s. 19, No. 1. 1924.
- A simple membrane manometer (with R. L. Gregory). *Science* 61:368-70. 1925.
- The effect of quinidine on interauricular conduction and irritability in the terrapin's heart (with C. Cervenka). *Proceedings of the Society for Experimental Biology and Medicine* 22:311. 1925.

PHYSIOLOGY

JESSE FRANCIS McCLENDON, Ph.D., Professor of Physiologic Chemistry

- Physical chemistry in biology and medicine (with Grace Medes). Philadelphia: W. B. Saunders Co. 1925.
- A new formula for the electrical resistance of certain inhomogeneous systems. *Science* 60:523-24. 1924.

Electric conductivity of red blood corpuscles using high frequency alternating currents. *Ibid.* 60:1548. 1924.

The effect of deficiencies in the diet. *Journal of the American Dental Association* 11:1083-97. November, 1924.

FREDERICK H. SCOTT, Ph.D., M.B., D.Sc., Professor of Physiology

The effect of pituitrin on blood and on lymph and urine production (with E. C. Bayley, J. C. Davis, W. Whitman). *Proceedings of the Society for Experimental Biology and Medicine* 22:312-14. 1924-25.

The respiratory wave in arterial blood pressure (with M. B. Visscher and A. Rupp). *American Journal of Physiology* 70:586-606. 1924.

ESTHER GREISHEIMER, Ph.D., M.D., Assistant Professor of Physiology

Irritability and blood sugar. *American Journal of Physiology* 72:213. 1925.

Irregularities of respiration. *Minnesota Medicine* 8:387-92. 1925.

### PREVENTIVE MEDICINE AND PUBLIC HEALTH

HAROLD S. DIEHL, M.A., M.D., Associate Professor of Preventive Medicine and Public Health, Chief of the Department of Preventive Medicine and Public Health, and Director of the Students' Health Service

Part time physicians in student health work. *Proceedings of the American Student Health Association. Journal-Lancet* 44:446-49. September, 1924.

Relations of student's health service of the university to the physicians of the state. *Ibid.* 44, No. 18:446-49. September 1, 1924.

Rural and urban health. A comparison of physical defects in university students from rural and urban districts (with W. P. Shepard). *Journal of the American Medical Association* 83:1117. October 11, 1924.

Mental hygiene studies of university freshmen (with A. W. Morrison). *Ibid.* 83:1666. November 22, 1924.

The prevention of athletic injuries. *The Coach* 1, No. 4. December, 1924.

Uniform records for health services. *Proceedings of the American Student Health Association.* 1925.

ALBERT J. CHESLEY, M.D., Associate Professor of Preventive Medicine and Public Health

The automobile as a public health hazard. *Proceedings of the Thirty-ninth Annual Meeting of the Conference of State and Provincial Health Authorities of North America, 1924; Abstract. American Journal of Public Health* 14, No. 11:917-20. November, 1924; *The Literary Digest* 83:26. December 13, 1924.

Is the American Indian susceptible to training in modern preventive medicine? *Proceedings of the Thirty-ninth Annual Meeting of the Conference of State and Provincial Health Authorities of North America, 1924; Abstract. American Journal of Public Health* 15, No. 2:133-36. February, 1925.

JAY A. MYERS, Ph.D., M.D., Assistant Professor of Preventive Medicine and Public Health

Vital capacity of the lungs. Baltimore: Williams and Wilkins Company. 1925. 140 pages.

Studies on the respiratory organs in health and disease. XIV. The vital capacity of the lungs of 419 firemen (with L. M. A. Maedes). *Archives of Internal Medicine* 35:184-203. February, 1925; XV. Tuberculosis and other respiratory infections among university students (with W. P. Shepard). *Minnesota Medicine* 8:237-42. April, 1925; XVI. A comparison of vital capacity standards in 3,534 male university students (with W. P. Shepard). *Archives of Internal Medicine* 35:337-46. March, 1925; XVII. The vital capacity in 347 cases of disease of the bronchi (with

- L. H. Cady). *The Journal-Lancet* 46:66-67. February, 1925; XVIII. The administration of natural and artificial sunlight in private practice. *Minnesota Medicine* 6:322-68. June, 1925; XIX. The significance of serial vital capacity readings in the guidance and treatment of certain diseases of the chest. *American Review of Tuberculosis* 11:64-70. March, 1925; XX. The value of the vital capacity test in artificial pneumothorax treatment (with W. Bailey). *American Review of Tuberculosis* 10:597-605. January, 1925.
- The vital capacity of the lungs and its practical application. *Journal of Industrial Hygiene* 7:25-42. January, 1925.
- A study of the clinical findings and ring test in 500 cases examined for tuberculosis. *American Review of Tuberculosis* 11:71-77. March, 1925.
- Tuberculosis in the unborn child. *Journal of Out-Door Life* 22:244-47. April, 1925.
- The significance of tuberculin tests in the detection of tuberculous infection. *Public Health Nurse* 17:65-68. February, 1925.
- The vital capacity of the lungs in a group of sanatorium patients (with W. Bailey). *Journal-Lancet* 45:140-41. March 15, 1925.
- Advancing our forces in the tuberculosis campaign. *Ibid.* 44:375-79. July 15, 1925
- Second medical report of the Lymanhurst School for tuberculous children. *Bulletin of the Department of Public Welfare*, Minneapolis 44:43-46. January 15, 1924.
- A physiological explanation of certain symptoms in pneumonia. *Journal-Lancet* 45:281-84. June 15, 1925.
- The diet factor in tuberculosis. *The Trained Nurse and Hospital Review* 74, No. 6:604-8. June, 1925.

## UROLOGY

GILBERT J. THOMAS, M.D., F.A.C.S., Assistant Professor of Urology

- Spontaneous hemorrhage from the urinary bladder of unknown etiology. *Transactions of the American Association of Gynecology, Urology, and Surgery* 17. 1924.
- The pre-operative treatment of hypertrophy of the prostate. *Minnesota Medicine* 8:171-80. March, 1925.
- Abstracts of*
- G. G. Smith, Ureteral calculus. *Surgery, Gynecology, and Obstetrics* 40, No. 1:55. January, 1925.
- P. Syms, Prostatectomy under sacral anaesthesia. *Ibid.* 40, No. 1:55. January, 1925.
- P. B. Bland, The treatment of accidental occlusion of the ureter. *Ibid.* 39, No. 1:61. July, 1924.
- F. B. Lund, New growths in undescended testicles. *Ibid.* 39, No. 1:65. July, 1924.
- H. C. Rolnick, Experimental studies on the vas deferens. *Ibid.* 40, No. 4:325. April, 1925.
- W. R. Delzell and O. S. Lowsley, Diagnosis and treatment of disease of the seminal vesicles. *Ibid.* 39, No. 1:65. July, 1924.
- D. E. Shea, The seminal vesicles in arthritis. *Ibid.* 39, No. 1:62. July, 1924.
- B. A. Thomas, Factors responsible for reduction of mortality and morbidity in prostatectomy. *Ibid.* 39, No. 1:64. July, 1924.

## SURGERY

ARTHUR TEALL MANN, B.S., M.D., F.A.C.S., Associate Professor of Surgery

- Chronic gallbladder disease in the young adult. *Journal of the American Medical Association* 83:981-84. 1924.

HENRY P. RITCHIE, Ph.B., M.D., F.A.C.S., Associate Professor of Surgery

- The destructive and constructive surgery of malignancy. *Minnesota Medicine* 8:4-7. 1925.

WALTER A. FANSLER, M.A., M.D., Instructor in Surgery

The classification and treatment of hemorrhoids. *Minnesota Medicine* 8:556-59. August, 1924.

The history and present status of the non-surgical treatment of hemorrhoids. *Ibid.* 7:720-22. November, 1924.

MINAS JOANNIDES, B.S., M.D., Instructor in Surgery

Extraperitoneal intrapleural route of approach for intrathoracic surgery. *Annals of Surgery* 80:908-10. 1924.

### NURSING

MARION L. VANNIER, Grad. in Nursing, Associate Professor of Nursing and Director of the School of Nursing

How is time credit determined? *American Journal of Nursing* 25:221. March, 1925.

## THE COLLEGE OF DENTISTRY

### DENTISTRY

ALFRED OWRE, D.M.D., M.D., C.M., B.A., Dean of the College of Dentistry and Professor of the Theory and Practice of Dentistry

Diet and dentistry. Minneapolis: University of Minnesota. November, 1924. 18 pages. Minutes and proceedings of the Dental Faculties' Association of American Universities, 1908-1924, re-edited by Alfred Owre. Minneapolis: University of Minnesota. 1924. 125 pages.

The foundation of oral hygiene. Minneapolis: University of Minnesota. November, 1924. 12 pages; *Journal of the American Dental Association* 12:454-58. 1925.

The pre-dental course. *The Dental Forum* 1:53-57. 1924.

Is there an alarming shortage of dentists. *Ibid.* 1:78-79. 1924.

On the open road. *Minneapolis District Dental Journal* 8:21. 1925.

Discussion of Dr. Howe's paper. *Transactions of the Minnesota State Dental Association*, forty-first annual meeting. 1924. Pages 73-74.

Discussion of Dr. Gies' address. *Organization and Proceedings of the First Annual Meeting of the American Association of Dental Schools*, Chicago, 1924. Pages 155-56.

Discussion of Dr. Ford's address. *Ibid.* 1924. Page 214.

### ORAL HYGIENE AND PATHOLOGY

HAROLD J. LEONARD, D.D.S., B.A., Associate Professor of Oral Hygiene and Pathology, Superintendent of the School for Dental Nurses, and Chief of the Dentistry Division, Students' Health Service

The training of dental hygienists. *Proceedings of the First Annual Meeting of the American Association of Dental Schools*. 1924. Pages 129-31.

The teaching of oral hygiene and periodontology in colleges of dentistry. *Proceedings of the Second Annual Meeting of the American Association of Dental Schools*. 1925. Pages 149-66.

The care of children's teeth. *Pacific Dental Gazette* 32:732-38. December, 1924.

How to build sound teeth. *Ibid.* 33:1-9. January, 1925.

Preventive dentistry in the public schools. *Ibid.* 32:610-19. October, 1924.

THE SCHOOL OF MINES  
METALLOGRAPHY

OSCAR E. HARDER, Ph.D., Professor of Metallography  
Bibliography, X-rays and metals. *General Electric Review* 27:456-58. 1924.

THE COLLEGE OF PHARMACY  
PHARMACY

FREDERICK J. WULLING, Phm.G., Phm.D., LL.M., Dean of the College of Pharmacy, Professor of Pharmacology, and Director of the University Medicinal Plant Garden

- Pharmaceutical development and education. *Canadian Pharmaceutical Journal* 58, No. 1:446-53; 58, No. 2:69-72. August, September, 1924.
- Too many accidents. *Parent-Teacher Broadcaster* 2, No. 1:8-23. October, 1924.
- S. O. S.—An appeal to save lives. *Ibid.* 2, No. 2:16-17. November, 1924.
- Dispensing and dispensary practice for students. *Journal of the American Pharmaceutical Association* 13, No. 10:922-24. October, 1924.
- Intelligence tests in high schools. *Ibid.* 14, No. 3:258-59. March, 1925.
- Report of proceedings of the northwest branch of the American Pharmaceutical Association, 1924. *Ibid.* 14, No. 1:57. January, 1925.
- Fatal poisoning cases in Hennepin County, Minnesota, during 1923 and 1924. *Ibid.* 14, No. 6:505-6. June, 1925.
- Do your part in preventing automobile accidents. *Northwestern Druggist* 32, No. 12:16, 94, 98. December, 1924.
- An appeal to all persons to help save lives. *American Druggist* 72, No. 12:26-29. December, 1924; *Midland Druggist and Pharmaceutical Review* 59, No. 3:68-89. March, 1925.
- College of Pharmacy, University of Minnesota. *American Druggist* 73, No. 4:55. April, 1925.
- The collective way. *American Druggist* 73, No. 4:34-35. April, 1925; *Northwestern Druggist* 33, No. 4:34. April, 1925; *Pharmaceutical Era* 60, No. 12:359. March, 1925; *Southern Pharmacy Journal* 17, No. 8:500. April, 1925; *The Communicator* 14, No. 1:25. April 17, 1925; *The Western Druggist* 47, No. 4:50. April, 1925; *Journal of the American Pharmaceutical Association* 14, No. 5:456-57. May, 1925.
- University of Minnesota digitalis. *Northwestern Bulletin*. June, 1925.

PHARMACEUTICAL BOTANY AND PHARMACOGNOSY

EDWIN LEIGH NEWCOMB, P.D., Ph.M., Phm.D. (*causa hon.*), Professor of Pharmaceutical Botany and Pharmacognosy

- Report of 1924 convention of Wisconsin Pharmaceutical Association. *Northwestern Druggist* 32, No. 8:21, 96, 97, 98. 1924.
- Why pharmacy needs adequate headquarters. *Ibid.* 32, No. 9:13, 14, 15. 1924.
- Report of 1924 convention of North Dakota Pharmaceutical Association. *Ibid.* 32, No. 9:16, 17, 18. 1924.
- Report of 1924 convention of South Dakota Pharmaceutical Association. *Ibid.* 32, No. 9:24-87. 1924.
- Contributions on the building project. *Ibid.* 33, No. 2:51-124. 1925.
- Report of 1925 convention of Iowa State Pharmaceutical Association. *Ibid.* 33, No. 3:17, 18, 21, 22. 1925.
- Report of 1925 convention of Minnesota State Pharmaceutical Association. *Ibid.* 33, No. 3:33, 34, 35. 1925.



Report of third annual meeting of Northwestern Pharmaceutical Bureau. *Ibid.* 33, No. 3:42-112. 1925.

Editorials in the *Northwestern Druggist*, St. Paul: Tax repeals; The all-pharmacy building; Our responsibility; Preservation of medicines; To restrict ownership; How do you buy; How do you sell; Drugstore ownership law; correlating drug activities; Drugstore advertising; United States government certified food colors; Carbon monoxide in small garages; Minnesota legislation; As we know the pharmacist; Profiting at a convention; Parents-teachers associations; Co-operative advertising; State conventions; Newspaper advertising.

### PHARMACEUTICAL CHEMISTRY

CHARLES H. ROGERS, B.S., D.Sc., Associate Professor of Pharmaceutical Chemistry

Report of Research Committee of Minnesota State Pharmaceutical Association. *Proceedings of the Minnesota State Pharmaceutical Association.* 1925.

Recent advances in colloidal pharmaceutical chemistry. *Ibid.* 1925.

### THE SCHOOL OF CHEMISTRY

#### ANALYTICAL CHEMISTRY

PAUL H. M.-P. BRINTON, Ph.D., Professor of Analytical Chemistry

The iodimetric determination of vanadium (with A. Stoppel and C. F. Sidener). *Journal of the American Chemical Society* 46:2448-53. 1924.

The ignition of precipitates II. Conversion of molybdenum sulphide into oxide, and the volatility of molybdenum trioxide (with A. Stoppel). *Ibid.* 46:2454-57. 1924.

The determination of uranium in carnotite (with R. B. Ellestad). *Industrial and Engineering Chemistry* 16:1191-95. 1924.

A plea for rationally co-ordinated courses in analytical chemistry. *Journal of Chemical Education* 1:226-30. 1924.

#### CHEMICAL ENGINEERING

CHARLES A. MANN, Ph.D., Professor of Chemical Engineering and Chief of the Division of Chemical Engineering

The electrochemical oxidation of toluene to benzaldehyde (with Paul M. Paulson). *Transactions of the American Electrochemical Society* 47:31. 1925.

Review of

Richard B. Pilcher and Frank Butler Jones, What industry owes to chemical science. *Journal of Industrial and Engineering Chemistry* 16:983. 1924.

#### INORGANIC CHEMISTRY

M. CANNON SNEED, Ph.D., Professor of Chemistry and Chief of the Division of Inorganic Chemistry

Review of

The *Chemical Age* Chemical dictionary chemical terms. *Journal of Chemical Education* 2:158. 1925.

RAYMOND E. KIRK, M.Sc., Assistant Professor of General Inorganic Chemistry

Minnesota marl. *Chemical Age* (New York) 32:492-93. 1924.

The manufacture of Portland cement from marl. *Ibid.* (London). December, 1923; *China Clay Trade Review* 9, Sections 16-17. December, 1923.

## PHYSICAL CHEMISTRY

LOYD H. REYERSON, Ph.D., Assistant Professor of General Inorganic Chemistry

The reducing action of hydrogen absorbed in silica gel. (with Max Latshaw). *Journal of the American Chemical Society* 47:610. 1925.

## THE COLLEGE OF EDUCATION

## ADMINISTRATION

MELVIN EVERETT HAGGERTY, Ph.D., Dean of the College of Education and Professor of Educational Psychology

Training the superintendent of schools. *Bulletin of the University of Minnesota, Educational Research Bulletin* 28, No. 17. April 6, 1925. 29 pages.

Mental capacity of children and paternal occupation. *The Journal of Educational Psychology* 15:559-72. December, 1924.

The incidence of undesirable behavior in public school children. *The Journal of Educational Research Psychology* 12:102-22. September, 1925.

FRED ENGELHARDT, Ph.D., Professor of Educational Administration

A school building program for Robbinsdale, Minnesota, 1925. Minneapolis: *University of Minnesota Educational Monograph* No. 8. 48 pages.

The forecasting of school population. *Teachers College Publication* No. 177. New York City: Teachers College, Columbia University. 110 pages.

Forecasting school population. *The School Board Journal* 80, No. 4:47-53. April, 1925.

## ART EDUCATION

ROBERT STOSE HILPERT, B.S., Assistant Professor of Art Education

Planning a school annual. *The School Arts Magazine* 24:25-28. 1924.

Art in relation to the rural community. *Everyday Art* 3, No. 2:14. 1924; 3, No. 4:14. 1925; 3, No. 7:11-14. 1925.

A course of study for art correlation. Manual Arts in the Junior High School. St. Cloud, Minn.: The Board of Education. 1925. 43 pages.

## EDUCATIONAL ADMINISTRATION AND SUPERVISION

LEONARD V. KOOS, Ph.D., Professor of Secondary Education

The high school principal. Boston: Houghton, Mifflin Company. 1924. 121 pages.

The junior-college movement. Boston: Ginn and Company. 1925. 436 pages.

Teacher training. (Chapter VII of G. F. Zook and others, Survey of higher education in Cleveland.) Cleveland, Ohio: Cleveland Foundation Committee. 1924. Pages 285-325.

The junior high school and college entrance. *School Review* 32:494-507. 1924.

The trend of reorganization in higher education. *Ibid.* 32:575-86, 656-66. 1924.

High-school teachers' meetings—a study of preferences. *American School Board Journal* 69:35-36. October, 1924.

Some aspects of the job analysis of high-school teaching. *Journal of Educational Research* 10:228-35. 1924.

Overlapping in high school and college. *Ibid.* 11:322-36. 1925.

A comparison of aims from elementary school to university. *Educational Review* 69:176-83. 1925.

*Reviews of*

Emma V. Thomas-Tindal and Jessie Du Val Myers, Junior high-school life. *Journal of Educational Research* 11:66-67. 1924.

W. C. Reavis and others, Studies in secondary education, II. *School Review* 33:467-69. 1925.

Gustave Straubenmueller and others, Survey of the junior high schools of the city of New York. *Elementary School Journal* 25:153-54. 1924.

J. ORIN POWERS, M.A., Instructor in Education

Legal provisions and regulations of state departments of education affecting junior high schools. *School Review* 33:280-91. 1925.

## EDUCATIONAL PSYCHOLOGY

WILFORD S. MILLER, Ph.D., Professor of Educational Psychology

The variation and significance of intelligence quotients obtained from group tests. *The Journal of Educational Psychology* 15:359-67. 1924.

An objective test in educational psychology. *Ibid.* 16:237-47. 1925.

The classification of 6-A pupils into ability groups. *Proceedings of the Minnesota Society for the Study of Education* 1:14-26. 1925.

MARVIN J. VAN WAGENEN, Ph.D., Assistant Professor of Educational Psychology

A teachers' manual in the use of accomplishment educational scales. Bloomington, Illinois: Public School Publishing Company. 1925. 187 pages.

Scales for measuring individual achievement in spelling. Bloomington, Illinois: Public School Publishing Company. 1925. 8 pages.

A comparison of the mental ability and school achievement of the bright and dull pupils in the sixth grade of a large school system. *The Journal of Educational Psychology* 16:186-92. 1925.

## THEORY AND PRACTICE OF TEACHING

LEO J. BRUECKNER, Ph.D., Associate Professor of Education

Use of free activity periods in determining errors in oral speech. *Journal of Educational Method* 5, No. 6:248-53. February, 1925.

Diagnostic and remedial work in arithmetic. *Minneapolis Educational Bulletin* No. 5. November, 1924. Pages 55.

Diagnostic and remedial work in English. *Ibid.* No. 6. January, 1925. 52 pages.

Value of time analysis of class room activity as a supervisory technique. *Elementary School Journal* 25, No. 7: 518-22. March, 1925.

Educational research in Minneapolis. *Proceedings of the Second Annual Conference of the Minnesota Society for the Study of Education* 1:40. March, 1924.

Survey of the use made of the supervised study period. *School Review* 33, No. 5:333-46. May, 1925.

Improvement of instruction in reading. *Tri-State English Bulletin*.

A series of twenty articles on curriculum making. *School Bulletin*, Minneapolis Schools. October, 1924 to May, 1925.

## TRADES AND INDUSTRIES

RALPH T. CRAIGO, B.S., Instructor in Trade and Industrial Education

Spread of activities in a large trade school. *Vocational Education Magazine* 2:1123, 1124, 1125, 1126, 1127, 1128. December, 1924.

CHARLES A. PROSSER, D.Pd., Ph.D., LL.D., Ed.D., Lecturer in Trade and Industrial Education

Vocational education in a democracy (with C. R. Allen). New York: Century Company. 1925.

Pusher education. *Vocational Education Magazine* 2, No. 11. September, 1924.

Vocational education and the changing job. *Ibid.* 2, No. 12. October, 1924.

Less politics and more efficiency. *Ibid.* 2, No. 13. November, 1924.

Efficiency factors in vocational education. *Ibid.* 2, No. 14. December, 1924.

Training teachers to teach individuals within groups. *Ibid.* 3, No. 1. January, 1925. *Reviews of*

F. J. Keller, Day schools for young workers. New York: Century Co. 1925. 577 pages.

G. A. Schmidt, New methods in teaching vocational agriculture. New York: Century Co. 1925. 268 pages.

C. L. Young, Practical painting and paper hanging. New York: Century Co. 1925. 414 pages.

A. F. Gerhard, A handbook for bakers. New York: Century Co. 1925. 450 pages.

HOMER J. SMITH, Ph.B., Instructor in Trade and Industrial Education

Industrial education in the public schools of Minnesota: A detailed study of its history and present practice with suggestions. Minneapolis: *University of Minnesota Educational Monograph* No. 6. 1924. 153 pages.

LYNN E. STOCKWELL, M.A., Instructor in Trade and Industrial Education

General purposes of industrial work for boys in the junior-high school. *Industrial Arts Magazine* 14:47-49. 1925.

An analysis of part time laws enacted by the states. *Ibid.* 14:89-92. 1925.

### UNIVERSITY HIGH SCHOOL

LEONARD D. HAERTTER, M.A., Instructor in Mathematics

Elementary algebra. Philadelphia: The John C. Winston Co. 1925. 350 pages.

REWEY BELLE INGLIS, M.A., Instructor in English

Popularizing accuracy. *English Journal* 13:567-78. October, 1924.

A lesson on Mark Twain. *Ibid.* 14:221-32. March, 1925.

Where does Minnesota stand? *Tri-State English Notes* 3:3-7. July, 1925.

The Minnesota contest in minimum essentials. *Ibid.* 2:9-14. May, 1924.

DORA V. SMITH, M.A., Instructor in English

Lessons in Milton's L'Allegro. *The English Journal* 14:36-47. 1925.

DORIS STEVENS, B.A., Instructor in French

Virgil, as the Latin class sees him. *The Classical Journal* 20:161-66. 1924.

### THE GRADUATE SCHOOL

#### THE MAYO FOUNDATION FOR MEDICAL RESEARCH BACTERIOLOGY AND IMMUNOLOGY

EDWARD CARL ROSENOW, M.D., Professor of Experimental Bacteriology

Streptococci in the etiology of epidemic encephalitis, spasmodic torticollis, respiratory arrhythmia, and chorea. *Journal-Lancet* 44:479-81. 1924.

Experimental and clinical studies on focal infection and elective localization: newer findings and their significance. *Journal of the American Dental Association* 11:963-82. 1924; *Dental Summary* 44:954-66, 1026-41. 1924.

- A precipitin reaction in epidemic poliomyelitis. *Proceedings of the Society for Experimental Biology and Medicine* 22:155-56. 1924.
- Further studies on the etiology of epidemic hiccough. *Ibid.* 22:187-88. 1924.
- A precipitating and neutralizing antistreptococcus (scarlatinal) horse serum. *Ibid.* 22:189-93. 1924.
- A specific precipitation in epidemic poliomyelitis. *Journal of the American Medical Association* 84:429-32. 1925.
- The production of urinary calculi by the devitalization and infection of teeth in dogs with streptococci from cases of nephrolithiasis. *Journal of the Iowa State Medical Society* 15:297-301. 1925.

ARTHUR HAWLEY SANFORD, M.A., M.D., Professor of Clinical Bacteriology and Parasitology

Modified gram stain (Ruhland). *Journal of Laboratory and Clinical Medicine* 10:668. 1925.

THOMAS BYRD MAGATH, M.D., Ph.D., Associate Professor of Clinical Bacteriology and Parasitology

- Ophiotaenia testudo, a new species from *Amyda spinifera*. *Journal of Parasitology* 11:44-49. 1924.
- Septicemia due to the bacillus of Morgan No. 1 (with Edna Jackson). *Medical Clinics of North America* 8:1381-87. 1925.

MEDICINE

HENRY STANLEY PLUMMER, M.D., Professor of Medicine

- Medical treatment of hyperthyroid cases. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:66-67. 1924.
- The administration of thyroid preparations (with W. M. Boothby). *Journal of the American Medical Association* 83:1333-35. 1924.
- The results of iodine administration in exophthalmic goiter (with C. H. Mayo). *Transactions of the American Surgical Association*. 1925.

WALTER D. SHELDON, B.S., M.D., Professor of Neurology

The nervous system: a clinic. *Journal-Lancet* 44:389-92. 1924.

JOHN HINCHMAN STOKES, B.A., M.D., Professor of Dermatology

- Results secured by standard methods of treatment in four hundred five cases of neurosyphilis (with L. W. Shaffer). *Journal of the American Medical Association* 83:1826-34. 1924.
- Serological and clinical results in various types of syphilis with sulpharshenamin administered intramuscularly (with C. W. Behn). *Ibid.* 83:242-46. 1924.
- Observations on the course of four hundred and thirteen cases of untreated or inadequately treated syphilis (with H. A. DesBrisay). *American Journal of Syphilis* 8:558-68. 1924.
- Tryparsamid in the treatment of neurosyphilis: a study based on observation of 152 patients for eighteen months (with L. F. X. Wilhelm). *Archives of Dermatology and Syphilology* 11:579-610. 1925.
- Certain factors in the diagnosis of syphilis unrecognized in the earlier years of the infection (with H. A. DesBrisay). *Canadian Medical Association Journal* 14:715-18. 1924.
- Primary inoculation tuberculosis of the skin with metastasis to regional lymph-nodes. *American Journal of the Medical Sciences* 169:722-36. 1925.

RUSSELL M. WILDER, Ph.D., Professor of Medicine

Care of diabetic patients undergoing operation. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:69-71. 1924.

- Optimal diets for diabetic patients. *Journal of the American Medical Association* 83:733-37. 1924; *Dietary Administration and Therapy* 2:540-48. 1924.
- The clinical assaying of insulin and the insulin requirement. *Endocrinology* 8:630-38. 1924.
- Indications for the use of insulin. *Northwest Medicine* 23:444-47. 1924.
- Glandular therapy. Pancreatic gland preparations. III. Application in internal medicine. *Journal of the American Medical Association* 83:1078-79. 1924.
- Studies on the metabolism of fat: the behavior of an uneven fatty acid (intarvin) fat (with Kathleen Sandiford). *Collected Papers of the Mayo Clinic and Mayo Foundation* 16:1078-80. 1924.
- Diabetes, its cause and its treatment with insulin. *Haldeman-Julius Company*. No. 875:1-64. 1925.

WALTER MEREDITH BOOTHBY, M.A., M.D., Associate Professor of Medicine

- The use of iodine in exophthalmic goiter. *Endocrinology* 8:727-45. 1924.
- Iodine in the prevention and treatment of goiter. *Journal of the Indiana State Medical Association* 18:5-8. 1925.
- The basal metabolic rate in cases of primary cardiac disease (with F. A. Willius). *Medical Clinics of North America* 8:1171-80. 1925.
- The effect of insulin on the respiratory metabolism (with R. Weiss). *Proceedings of the American Society of Biological Chemists*, 1924; *Journal of Biological Chemistry* 63:1-11. 1925.

GEORGE BYSSCHE EUSTERMAN, M.D., Associate Professor of Medicine

- Practical aspects of certain phases of treatment with special reference to organotherapy and physiotherapy. *Ohio State Medical Journal* 20:677-80. 1924.
- Certain clinical and pathological aspects of focal infection with special reference to the teeth and tonsils and the gastro-intestinal tract. *Annals of Clinic Medicine* 5:394-401. 1924.
- Spontaneous healing of chronic duodenal and gastrojejunal ulcer. *Medical Clinics of North America* 8:1045-53. 1925.
- Duodenal ulcer simulating the gastric crises of tabes: report of five cases. *Southern Medical Journal* 18:319-23. 1925.

HERBERT ZIEGLER GRIFFIN, B.S., M.D., Associate Professor of Medicine

- Splenectomy in cases of purpura hemorrhagica. *Minnesota Medicine* 8:207-14. 1925.
- Four cases of hemorrhagic purpura with splenectomy. *Medical Clinics of North America* 8:1153-61. 1925.

NORMAN MACDONNELL KEITH, B.A., M.D., Associate Professor of Medicine

- Cases of marked hypertension, adequate renal function and neuroretinitis (with H. P. Wagener). *Archives of Internal Medicine* 34:374-87. 1924; *Transactions of the Association of American Physicians* 39:39-44. 1924.
- Treatment of nephritis and edema with calcium (with C. W. Barrier and Mary Whelan). *Journal of the American Medical Association* 83:666-70. 1924; *Dietary Administration and Therapy* 2:554-62. 1924.
- Certain distinct types of renal disease. *Medical Clinics of North America* 8:1093-1101. 1925.

WILLIS S. LEMON, M.B., Associate Professor of Medicine

- Gangrenous type of postoperative pneumonia (with A. E. Mahle). *Southwestern Medicine* 8:536-52. 1924.
- Ectopic adenomyoma: postoperative invasions of the abdominal wall. *Archives of Surgery* 10:150-62. 1925.
- The differential diagnosis in cases of ectopic adenomyoma in the groin (with A. E. Mahle). *Medical Clinics of North America* 8:1125-35. 1925.
- Lipoma of the mediastinum. *Ibid.* 8:1247-56. 1925.

## ARCHIBALD HODGE LOGAN, M.D., Associate Professor of Medicine

Experimental studies on the etiology of chronic ulcerative colitis: Suggestions for a more rational form of treatment (with J. A. Bargaen). *Journal of the American Medical Association* 83:332-36. August, 1924.

## HENRY WILLIAM WOLTMANN, Ph.D., in Neurology, Associate Professor of Neurology

Headaches. *Medical Clinics of North America* 8:1319-40. 1925.

## GEORGE ELGIE BROWN, M.D., Assistant Professor of Medicine

Three cases of vascular diseases affecting the feet. (Thrombo-angiitis obliterans, Raynaud's disease, and erythromelalgia). *Medical Clinics of North America* 8:1189-1202. 1925.

The skin capillaries in Raynaud's disease. *Archives of Internal Medicine* 35:56-73. 1925.

Skin capillaries in scleroderma (with P. A. O'Leary). *Ibid.* 36:73-88. 1925.

Volume and composition of the blood in Addison's disease (with G. M. Roth). *American Journal of Medical Science* 169:47-59. 1925.

Coronary sclerosis: an analysis of eighty-six necropsies (with F. A. Willius). *Ibid.* 168:155-80. 1924.

Calorimetric studies of the extremities following lumbar sympathectomy (with A. W. Adson). *Ibid.* 170:232. 1925.

A tintometer for the analysis of the color of the skin (with L. G. Rowntree). *Ibid.* 170:341-47. 1925.

Treatment of Raynaud's disease by lumbar sympathetic neurectomy (with A. W. Adson). *Journal of the American Medical Association* 84:1908-10. 1925.

A method for instantaneous photomicrography of the skin capillaries (with Charles Sheard). *Journal of Laboratory and Clinical Medicine* 10:925-31. 1925.

## FRED W. GAARDE, B.S., M.D., Assistant Professor of Medicine

Diseases of the mediastinum. Bedside diagnosis. Philadelphia: W. B. Saunders Co. Clinical differentiation of cases with abnormal X-ray shadows in the mediastinum. *Medical Clinics of North America* 8:1235-46. January, 1925.

## WILLIAM HENRY GOECKERMAN, M.D., Assistant Professor of Dermatology

The treatment of lupus erythematosus by filtered X-ray to the glandbearing regions of the body. *Medical Journal and Record* 120:530-33. 1924.

The effect of surgical trauma, in patients with syphilis, with special reference to healing of the postoperative wound. *Surgery, Gynecology and Obstetrics* 40:77-83. 1925.

The cure of syphilis. *Medical Clinics of North America* 8:1215-20. 1925.

A peculiar discoloration of the skin. Supplementary note. *Journal of the American Medical Association* 84:506-7. 1925.

The treatment of psoriasis. *Northwest Medicine* 24:229-31. 1925.

## PAUL ARTHUR O'LEARY, M.D., Assistant Professor of Dermatology

Stigmas of late congenital syphilis. *Minnesota Medicine* 7:651-56. 1924.

The cutaneous lesions of late syphilis. *Ibid.* 7:766-73. 1924.

Purpura hemorrhagica as a complication in the treatment of syphilis with sulpharsphenamin (with H. M. Conner). *American Journal of Syphilis* 9:262-73. 1925.

Postarsphenamin jaundice. *Medical Clinics of North America* 8:1203-13. 1925.

Pemphigus from the laryngologist's standpoint (with G. B. New). *Archives of Otolaryngology* 1:617-23. June, 1925.

## WILLIAM A. PLUMMER, M.D., Assistant Professor of Medicine

Iodin in the treatment of goiter. *Medical Clinics of North America* 8:1145-51. 1925.

FREDERICK ARTHUR WILLIUS, M.D., M.S. in Medicine, Assistant Professor of Medicine

- Administration of digitalis by rectum. *Northwest Medicine* 23:114-15. 1924.  
 Chronic adherent pericarditis (with A. R. Barnes). *Journal of the Indiana State Medical Association* 17:101-3. 1924.  
 Subacute bacterial endocarditis. *Southwestern Medicine* 8:203-5. 1924.  
 Diseases of myocardium. *Journal of the Iowa State Medical Society* 14:370-74. 1924.  
 A clinical study of complete heart-block. *Annals of Clinical Medicine* 3:129-35. 1924.  
 Clinical features of coronary sclerosis. *Minnesota Medicine* 7:575-77. 1924.  
 The progress of cardiology during 1924: a review of the works of clinicians and investigators in the United States. *Ibid.* 8:165-70, 230-36. 1925.  
 Paroxysmal tachycardia with special reference to prognosis (with A. R. Barnes). *Boston Medical and Surgical Journal* 191:666-70. 1924.  
 Thyroid preparations in the treatment of the Stokes'-Adams' syndrome. *Canadian Medical Association Journal* 14:1072-76. 1924.  
 Life expectancy with aortic regurgitation (with J. Fitzpatrick). *Medical Journal and Record* 120:417-21. 1924.  
 Acute coronary obstruction. *Medical Clinics of North America* 8:1181-87. 1925.  
 Paroxysmal tachycardia with multiple foci of stimulus production. *Annals of Clinical Medicine* 3:537-43. 1925.  
 Myocardial infarction: an electrocardiographic study. A report of nine cases from the Mayo Clinic, and a review of twenty-four published cases. *Journal of Laboratory and Clinical Medicine* 10:427-45. 1925.  
 The heart in prostatic hypertrophy. *Journal of Urology* 13:337-42. 1925.  
 Intermittent ventricular fibrillation with complete recovery: report of a case (with S. F. Haines). *Boston Medical and Surgical Journal* 193:473-75. 1925.

LOUIS ARTHUR BUE, B.A., M.D., Instructor in Medicine

- The value of proctology in general practice. *Minnesota Medicine* 7:604-5. 1924.

HARRY MILTON CONNER, M.D., Instructor in Medicine

- Symptoms and diagnosis of nontuberculous pulmonary suppuration. *Medical Clinics of North America* 8:1257-72. 1925.

JOHN BENEDICT DOYLE, M.D., M.S. in Neurology, Instructor in Neurology

- Clinical manifestations and treatment of epidemic encephalitis. *California and Western Medicine* 22:558-62. 1924.  
 Glossopharyngeal neuralgia. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:41-42. 1924.

CARL H. GREENE, Ph.D., Instructor in Medicine

- Functional tests in hepatic disease. *Minnesota Medicine* 8:142-45. 1925.

HOWARD RUSSELL HARTMAN, B.S., M.D., Instructor in Medicine

- The prognostic value of gastric acidity in cases of resectable carcinoma. *Journal of the American Medical Association* 83:1976-77. 1924.  
 Peptic ulcer and palpable masses. *Medical Clinics of North America* 8:1041-43. 1925.  
 Pyloric obstruction due to swallowing a solution of concentrated lye (with P. P. Vinson). *Ibid.* 8:1037-40. 1925.

CHARLES S. McVICAR, M.D., Instructor in Medicine

- A discussion of the clinical and laboratory findings in certain cases of obstruction in the upper gastro-intestinal tract. The rôle of blood chemistry in diagnosis, prognosis and treatment of this condition. *American Journal of Medical Science* 169:224-35. February, 1925.  
 Problems in the diagnosis and treatment of gastro-intestinal disorders. *Medical Clinics of North America* 8:1055-64. January, 1925.



HARRY LEE PARKER, B.A., M.B., C.H.B., M.S. in Neurology, Instructor in Neurology

Unusual forms of pain in the area of the fifth nerve. *Journal of the American Medical Association* 83:1672-78. 1924.

Clinical types of vertigo. *Medical Clinics of North America* 8:1307-17. 1925.

PORTER PAISLEY VINSON, B.S., B.A., M.D., Instructor in Medicine

Foreign bodies in the esophagus and air passages. *Minnesota Medicine* 7:546-48. 1924.

The value of the X-ray in the diagnosis and treatment of diseases of the esophagus. *Radiology* 3:105-9. 1924.

Unusual position of an open safety pin in the esophagus. *Ibid.* 4:129-30. 1925.

Cancer of the esophagus. *Medical Clinics of North America* 8:1027-36. 1925.

Dilation versus gastrostomy as a palliative treatment of carcinoma of the esophagus. *Journal of the American Medical Association* 84:658-59. 1925.

Severe burn of mouth from the accidental ingestion of granulated lye. *Laryngoscope* 35:127-28. 1925.

Esophageal obstructions in childhood. *Archives of Pediatrics* 62:211-12. 1925.

## OBSTETRICS AND GYNECOLOGY

ROBERT D. MUSSEY, M.D., Associate Professor of Obstetrics

Hypertension: an index to the toxemia of pregnancy (with L. M. Randall). *Minnesota Medicine* 7:583-86. 1924.

Clinical similarity between eclamptic toxemia and acute glomerulonephritis. *American Journal of Obstetrics* 9:808-19. 1925.

## OPHTHALMOLOGY AND OTO-LARYNGOLOGY

WILLIAM LEMUEL BENEDICT, M.D., Professor of Ophthalmology

Treatment of uveal diseases. *Journal of the Indiana State Medical Association* 17:408-14. 1924.

HAROLD IRVING LILLIE, B.A., M.D., Professor of Otolaryngology, Rhinology, and Laryngology

The technique of the tonsil operation. *Surgery, Gynecology and Obstetrics* 39:365. 1924.

A quantitative study of hearing with and without cotton plug protheses in the middle ear (with F. W. Kranz). *Annals of Otolaryngology and Rhinology* 33:458-71. 1924.

Osteomyelitis of the cranial bones secondary to paranasal sinus operations. *Ibid.* 34:353-60. June, 1925.

Staphylococcus septicemia secondary to mastoiditis and sigmoid sinus thrombosis. Operation and recovery: report of case (with J. B. Stevens). *Archives of Otolaryngology* 1:283-85. 1925.

GORDON BALGARNIE NEW, D.D.S., M.D., Professor of Rhinology, Laryngology, and Stomatology

Metastasis from symptomless cancer of the esophagus (with P. P. Vinson). *Medical Journal and Record* 120:19-20. 1924.

The roentgenologic diagnosis of pathologic conditions of the jaw. *Radiology* 3, No. 2:165-67. 1924.

The larynx in diseases of the thyroid. *Surgery, Gynecology and Obstetrics* 39:243-44. 1924.

The treatment of malignant tumors of the pharynx and nasopharynx. *Ibid.* 40:177-82. 1925.

Nasal deformities. *Minnesota Medicine* 7:629-33. 1924.

- The use of full thickness skin grafts (with F. A. Figi). *Ibid.* 7:714-16. 1924.  
 Treatment of fibromas of the nasopharynx: report of thirty-two cases (with F. A. Figi).  
*American Journal of Roentgenology* 12:340-43. 1924; *Annals of Otolaryngology, Rhinology, and Laryngology* 34:191-96. 1925.  
 Value of the Roentgen ray in diagnosis of tumors of the jaw (with F. A. Figi). *Journal of the American Medical Association* 83:1555-58. 1924.  
 Unusual pharyngeal lesions. *Archives of Oto-Laryngology* 1:384-91. 1925.  
 A review of the literature on tumors of the nose, throat and ear. *Ibid.* 1:545-52. 1925.  
 The treatment of malignant tumors of the nose, throat and mouth. *Kansas City Clinical Society Quarterly Bulletin* 1:23-27. 1925.  
 Plastic surgery of the nose. *Surgical Clinics of North America* 5, No. 3:721-28. June, 1925.

BERT E. HEMPSTEAD, B.A., M.D., Assistant Professor of Oto-Laryngology  
 Diabetes in the practice of oto-laryngology (with S. F. Adams). *Archives of Oto-Laryngology* 1:181-85. 1925.

AVERY D. PRANGEN, B.S., M.D., Assistant Professor of Ophthalmology  
 Early care of cross-eyed children. *Medical Clinics of North America* 8:1221-25. 1925.

WALTER IVAN LILLIE, M.D., M.S. in Ophthalmology, Instructor in Ophthalmology

Tryparsamide treatment of syphilis of the central nervous system. Observations from an ophthalmologic standpoint. *Journal of the American Medical Association* 83:801-13. 1924.

Ocular phenomena in acromegaly. *American Journal of Ophthalmology* 8:32-39. 1925.

## PATHOLOGY

WILLIAM CARPENTER MACCARTY, M.S., M.D., Professor of Pathology

The pathologist of 1940. *Journal of Laboratory and Clinical Medicine* 9:733-38. 1924.

Excised duodenal ulcers. A report of four hundred and twenty-five specimens. *Journal of the American Medical Association* 83:1894-98. 1924.

The early diagnosis of cancer. *Archives of Clinical Cancer Research* 1. January, 1925.

HAROLD EUGENE ROBERTSON, B.A., M.D., D.Sc., Professor of Pathology

The decline in tuberculosis as revealed by post-mortem examinations. *Minnesota Medicine* 7:543-46. 1924.

Unusual features of carcinoma. *Ibid.* 8:1-3. 1925.

Hospital deaths. *Hospital Progress* 5:371-72. 1924.

Endothelioma of the pleura. *Journal of Cancer Research* 8:317-75. 1924.

Duodenal ulcer: an anatomic study (with E. H. Hargis). *Medical Clinics of North America* 8:1065-92. 1925.

Our responsibility to our deaths. *Southern Medical Journal* 18:125-28. 1925.

Better post-mortem service. *Journal of Laboratory and Clinical Medicine* 10:486-90. 1925.

Proposed modification of the Kaiserling method for preservation of specimens for display purposes. *Ibid.* 10:665-67. 1925.

LOUIS BLANCHARD WILSON, M.D., Professor of Pathology

The distinctive functions of undergraduate and graduate medical schools. *Southern Medical Journal* 17:707-13. 1924.

Our present knowledge of cancer. *Minnesota Medicine* 8:82-88. 1925.

Necropsies as an index of efficiency of treatment. *Virginia Medical Monthly* 52:113-18. 1925.

- Microscopic examination of fresh tissue, and necropsy service in relation to surgery. *Annals of Surgery* 81:863-68. 1925.
- Report to the Board of Regents of the University of Minnesota by the director of the Mayo Foundation. *Collected Papers of the Mayo Clinic and Mayo Foundation* 16:1270-74. 1924.

ALBERT C. BRODERS, M.D., M.S. in Pathology, Associate Professor of Pathology

- Cancer's self-control. *Medical Journal and Record* 121:133-35. February, 1925.

## PEDIATRICS

HENRY FREDERICK HELMHOLZ, B.S., M.D., Professor of Pediatrics

- Preventive medicine and the future of medical practice. *Journal of the American Medical Association* 83:485-86. 1924.
- The pyogenic infections of the urinary passage. *Abt's Pediatrics* 4:914-37. 1924.
- An experimental study of therapeutic procedure in pyelocystitis (with F. Millikin). *American Journal of Diseases of Children* 28:700-10. 1924.
- The effect of change of reaction on the growth of bacillus coli and syphyllococcus aureus. *Ibid.* 29:78-85. 1925.
- The kidney: a filter for bacteria. I. The pressure of bacteria in the blood, kidney and urine after varying intervals following intravenous injection (with F. Millikin). *Ibid.* 29:497-505; II. The effect of diuresis on the excretion of bacteria by the kidney (with Ruth S. Field). *Ibid.* 29:506-12; III. The rôle of technic on the apparent excretion of bacteria by the kidney (with Ruth S. Field). *Ibid.* 29:641-44; IV. The effect of clamping the renal artery or renal vein on the passage of bacteria into the urine (with Ruth S. Field). *Ibid.* 29:645-49. 1925.

SAMUEL AMBERG, M.D., Associate Professor of Pediatrics

- The urine in infancy and childhood. *Abt's Pediatrics* 4:1032-1136. 1924.
- Certain aspects of enuresis. *Journal of the American Medical Association* 83:1300-4. 1924.
- Das Verhältnis des Hardrangs zur Blasenkontraktion bei Enuresis der Kinder. *Ztschr. f. Kinderheilk* 38:169-81. 1924.

## PHYSIOLOGY AND PHYSIOLOGIC CHEMISTRY

EDWARD C. KENDALL, Ph.D., Professor of Biochemistry

- Chemistry of the thyroid gland. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:64-66. 1924; *Journal of the American Medical Association* 83:1166-67. 1924.
- The quantitative study of the physiologic action of thyroxin. *Proceedings of the Society for Experimental Biology and Medicine* 22:307-8. 1925.

IRENE SANDIFORD, Ph.D., Instructor in Physiologic Chemistry

- Preliminary report on the basal metabolism of 157 normal school children between the ages of five and seventeen years (with Ethel R. Harrington). *Proceedings of the American Society of Biological Chemists* 63:35-37. 1924.
- The basal metabolism before, during, and after pregnancy (with T. Wheeler). *Journal of Biological Chemistry* 62:329-52. 1924.
- Estimation of the surface area of the fetus, and a graphic comparison of the various surface area formulas. *Ibid.* 62:323-28. 1924.

## ROENTGENOLOGY

RUSSELL DANIEL CARMAN, M.D., Professor of Roentgenology

- A preliminary report on the radiologic diagnosis of cholecystic disease by the Graham method (with V. S. Counsellor). *Transactions of the Section on Gastroenterology and Proctology of the American Medical Association*, pp. 77-84. 1924.
- The roentgenologic diagnosis of diaphragmatic hernia, with a report of seventeen cases (with S. Fineman). *Radiology* 3:26-45. 1924.
- Roentgenologic evidence of spinal-cord tumors: report of three cases (with K. S. Davis). *Ibid.* 3:185-88. 1924.
- Occupational hazards of the radiologist, with special reference to changes in the blood (with A. Miller). *Ibid.* 3:408-17. 1924.
- Technical aids in the roentgenologic demonstration of lesions high in the stomach and on the posterior wall. *Ibid.* 4:33-39. 1925.
- The pyelographic and rentgenologic diagnosis of renal tumors (with W. F. Braasch). *Ibid.* 4:445-52. 1925.
- Roentgenologic diagnosis of cholecystic disease with the aid of the sodium salt of terbromphenolphthalein (with V. S. Counsellor). *American Journal of Roentgenology* 12:403-13. 1924.
- Progress in the roentgenologic examination of the gallbladder. *Ibid.* 13:165-67. 1925.

ALEXANDER B. MOORE, M.D., Associate Professor of Roentgenology

Bladder sensibility. *Archives of Surgery* 9:176-87. 1924.

CHARLES GOLDIE SUTHERLAND, M.B., Instructor in Roentgenology

- Shadows of calcified areas in the bony pelvis. *Radiology* 3:69-73. 1924.
- Report of case of myxoma of the lung. *Ibid.* 3:161. 1924.
- Report of case of giant colon with impacted feces in the sigmoid. *Ibid.* 3:259-60. 1924.
- Osteochondromatosis in the hip-joint. Report of a case. *Ibid.* 3:285. 1924.
- A radiologic study of soft-tissue tumors. *Ibid.* 3:420-24. 1924.
- Cellular fibroma eroding the spine. Report of a case. *Ibid.* 4:58-59. 1925.
- Calcified areas in the abdominal cavity. Report of six cases. *Ibid.* 4:130-33. 1925.
- Charcot's joints. *Ibid.* 4:355-63. 1925.
- Miliary calcification in the lung. *Medical Clinics of North America* 8:1273-86. 1925.

## SURGERY

DONALD CHURCH BALFOUR, M.D., Professor of Surgery

- Recent advances in surgery (with M. R. Flynn). *International Clinics* 2 (Series 35:171-89. 1924.
- The case against gastro-enterostomy. *Journal of the American Medical Association* 83:603-6. 1924.
- Value of co-operation between internist and surgeon in the management of complicated gastric conditions, with some remarks on partial gastrectomy. *Ibid.* 84:876-79. 1925.
- Gastric surgery. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:63-64. 1924.
- The relative merits of the various treatments of peptic ulcer. *Minnesota Medicine* 8:218-24. 1925.

WILLIAM FREDERICK BRAASCH, B.S., M.D., Professor of Urology

- Recent progress in urology. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:61-63. 1925.
- Differential diagnosis in diseases of the urinary tract. *Medical Clinics of North America* 8:1109-24. 1925.
- Data with regard to lesions of the nerves of the urinary tract. *Journal of Urology* 13:383-98. 1925.

A simple table for cystoscopy and roentgenography (with H. C. Bumpus). *Ibid.* 13:247-50. 1925.

Clinical data in cases of renal lithiasis. *Illinois Medical Journal* 47:284-87. 1925.

Clinical data in cases of nephrolithiasis. *Ibid.* 47:284-87. 1925.

#### MELVIN STARKEY HENDERSON, M.D., Professor of Orthopedic Surgery

Surgery in cases of tuberculous arthritis. *Journal-Lancet* 44:411-16. 1924.

Fractures of the hip. *Minnesota Medicine* 7:789-91. 1924.

Arthroplasty. *Ibid.* 8:97-103. 1925.

Pseudarthrosis of the tibia in children. *Journal of Bone and Joint Surgery* 7:340-54. 1925.

Brodie's abscess (with H. E. Simon). *Archives of Surgery* 9:504-15. 1924.

#### EDWARD STARR JUDD, M.D., Professor of Surgery

Renal calculus (with A. J. Scholl). *Texas State Journal of Medicine* 20:434-39. 1924.

Stricture of the common bile duct. *Surgery, Gynecology and Obstetrics* 39:832-33. 1924.

Gastrojejunal ulcer (with B. R. Parker). *Oxford Surgery* 50:1060-75. 1924.

Post-operative stricture of the common bile duct (with V. G. Burden). *Annals of Surgery* 80:210-16. 1924.

Diverticulitis of the colon (with L. W. Pollock). *Ibid.* 80:425-38. 1924.

Internal biliary fistula (with V. G. Burden). *Ibid.* 81:305-12. 1925.

The surgical treatment of cancer of the breast. *American Journal of Roentgenology* 13:411-14. 1925.

The surgical treatment of cancer. *Journal of the American Medical Association* 84:10-13. January, 1925.

Multiple gastric ulcers (with O. S. Proctor). *Medical Journal and Record* 121:93-95. 1925.

Clinical demonstration: Affections of the colon and urinary tract. *Journal-Lancet* 45:90-91. 1925.

Infections of the gall-bladder and bile-ducts. *Ibid.* 45:179-82. 1925.

Obstructive jaundice (with V. G. Burden). *American Journal of the Medical Sciences* 169:888-96. 1925.

A review of urologic surgery (with L. D. Keyser, G. S. Foulds, J. Verbrugge and A. J. Scholl). *Archives of Surgery* 10:774-812. 1925.

#### FRANK CHARLES MANN, M.A., M.D., Professor of Experimental Surgery and Pathology

A physiologic consideration of the gallbladder. *Journal of the American Medical Association* 83:829-32. 1924.

Die Wirkungen der totalen Leberexstirpation (with T. B. Magath). *Ergebnisse der Physiologie* 23:212-73. 1924.

A review of the effects of total removal of the liver. *Ibid.* 23:212-73. 1924.

Investigations of the relation of anesthesia to hepatic function. *Current Researches in Anesthesia and Analgesia* 4:107-11. 1925.

The relation of the gallbladder to the development of jaundice following obstruction of the common bile duct (with J. L. Bollman). *Journal of Laboratory and Clinical Medicine* 10:540-43. April, 1925.

The effect of specific cholecystitis on the bile-concentrating activity of the gallbladder with J. L. Bollman and P. DePage). *Ibid.* 10:544-47. 1925.

Studies on the physiology of the liver. VIII. Effect of total removal of the liver on the formation of urea (with J. L. Bollman and T. B. Magath). *American Journal of Physiology* 69:371-92. 1924; IX. The formation of bile pigment after total removal of the liver (with J. L. Bollman and T. B. Magath). *Ibid.* 69:393-409. 1924; X. Uric acid following total removal of the liver (with J. L. Bollman, and T. B. Magath). *Ibid.* 72:629-40. 1925.

CHARLES HORACE MAYO, M.A., LL.D., M.D., D.Sc., F.A.C.S., Professor of Surgery

- Tuberculosis and its transmission. *Proceedings of the Twenty-eighth Annual Meeting of the United States Live Stock Sanitary Association*. 1924. Pages 143-46.
- The trend of modern surgery. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:125. 1924.
- The two-stage Mikulicz operation for cancer of the sigmoid (with W. Walters). *Surgery, Gynecology and Obstetrics* 39:1-4. 1924.
- Address of the president, delivered at the convocation of the American College of Surgeons, New York, October 24, 1924. *Ibid.* 40:447-48. 1925.
- Presidential address: Calcium. American College of Surgeons, New York. *Ibid.* 40:822-25. 1925.
- Appendix and abdominal diseases. *Journal of the American Medical Association* 83:592-93. 1924.
- The appendix in relation to, or the cause of, other abdominal diseases. *Ibid.* 83:592-93. 1924.
- Contributions of pure science to progressive medicine. *Ibid.* 84:1465-69. 1925.
- Address of welcome, before the American Association of Thoracic Surgeons, seventh annual meeting, Rochester, Minnesota. *Archives of Surgery* 10:263. 1925.
- Hour-glass stomach and duodenum. *Annals of Surgery* 81:313-21. 1925.
- Gallstones and diseases of the gallbladder. *Ibid.* 81:955-60. 1925.
- Infection and its relation to general and local disease. *Illinois Medical Journal* 47:274-76. 1925.

HENRY WILLIAM MEYERDING, M.D., M.S. in Orthopedic Surgery, Associate Professor of Orthopedic Surgery

- X-ray findings in bone tumors: exostosis, chondromas, bone cysts, osteitis fibrosa cystica, giant cell tumors. *Radiology* 3:216-21. 1924.
- Roentgenographic types of sarcoma of the long bones. *Ibid.* 3:457-63. 1924.
- Benign foreign body giant-cell tumors in the long bones. *Journal of the American Medical Association* 83:1323-29. 1924.
- Surgical treatment of chronic lesions of the bone. *Surgical Clinics of North America* 5:709-20. 1925.
- Bone tumors. *Minnesota Medicine* 8:628-33. 1925.

WALTER E. SISTRUNK, Phm.G., M.D., Associate Professor of Surgery

- The reduction of surgical mortality. *New Orleans Medical and Surgical Journal* 77:63-68. 1924.
- Ethylene anesthesia. *Minnesota Medicine* 7:563-64. 1924.
- The treatment of cancer of the colon. *Journal of the Michigan State Medical Society* 24:28. 1925.

BOYD S. GARDNER, D.D.S., Associate Professor of Dental Surgery

- Post-operative X-ray examination in dentistry. *Radiology* 3:74-75. 1924; *Dental Summary* 44:870-72. 1924.
- Extraction of teeth, with special reference to co-operation between exodontist and general practitioner. *Journal of the American Dental Association* 11:732-34. 1924.
- A method of localizing roots of teeth, residual granulomas or foreign bodies. *Radiology* 3:254-55. 1924.
- The X-ray as a means of safeguarding the antrum of Highmore during extraction of teeth. *Ibid.* 3:507-8. 1924.

ALFRED WASHINGTON ADSON, M.D., M.S. in Surgery, Assistant Professor of Surgery

- Spinal cord tumors. *Surgery, Gynecology and Obstetrics* 39:109-10. 1924.
- The surgical treatment of glossopharyngeal neuralgia. *Archives of Neurology and Psychiatry* 12:487-506. 1924.
- A clinical discussion of ramisection. *Minnesota Medicine* 8:275-77. May, 1925.

HERMON CAREY BUMPUS, JR., Ph.B., M.D., M.S. in Urology, Assistant Professor of Urology

Radium in the treatment of benign hypertrophy of the prostate. *Journal of Urology* 12:63-70. 1924.

Urinary reflux. *Ibid.* 12:341-46. 1924.

Unusual dilatation of the urethra with valve formation. *Ibid.* 13:551-53. 1925.

Modern methods and results of treating malignancy of the bladder. *Journal of the American Medical Association* 88:1139-42. 1924.

Ureteral scissors. *Ibid.* 83:1331. 1924.

Pyelonephritis treated with mercurochrome. *Medical Clinics of North America* 8:1103-7. 1925.

Treatment of infections of the urinary tract. *Journal-Lancet* 45:99-105. 1925.

CARL ARTHUR HEDBLOM, M.D., Ph.D. in Surgery, Assistant Professor of Surgery

The treatment of non-tuberculous pulmonary suppuration. *Minnesota Medicine* 7:668-69. 1924.

The surgical treatment of acute pulmonary abscess and chronic pulmonary suppuration with especial reference to the post-tonsillectomy type. *Journal of the American Medical Association* 83:1577-81. 1924.

Recent progress in thoracic surgery. *Wisconsin Medical Journal* 23:278-82. 1924.

The evolution of thoracic surgery as a specialty. *Archives of Surgery* 10:267-77. 1925.

VERNE CARLTON HUNT, B.S., M.D., M.S. in Surgery, Assistant Professor of Surgery

Factors of safety in prostatic surgery. *Journal of the Iowa State Medical Society* 14:450-53. 1924.

Perinephritic abscess. *Journal of the American Medical Association* 83:2070-74. December, 1924.

Surgery of the lower urinary tract. *Illinois Medical Journal* 47:222-27. March, 1925.

JOHN DE JARNETTE PEMBERTON, B.A., M.D., M.S. in Surgery, Assistant Professor of Surgery

Surgery of the thyroid. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:67-68. 1924.

JAMES CARROTHERS MASSON, M.D., Assistant Professor of Surgery

A case of true hermaphroditism. *American Journal of Obstetrics and Gynecology* 9:81-86. January, 1925.

HARRY HERMAN BOWING, B.S., M.D., Instructor in Radiology

Significant cellular changes observed in irradiated tissue, especially in cancer of the rectum. *Radiology* 4:378-83. 1925.

The value of definite methods of treatment of malignant and nonmalignant conditions (with J. H. Bliss). *Medical Clinics of North America* 8:1353-70. 1925.

HUGH TOLAND JONES, B.A., M.D., M.S. in Orthopedic Surgery, Instructor in Orthopedic Surgery

Loose body formation in synovial osteochondromatosis, with special reference to the etiology and pathology. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:37-40. 1924.

FREDERICK LEROY SMITH, B.A., M.D., Instructor in Surgery

Radiodermatitis and its treatment (with A. U. Desjardins). *New Orleans Medical and Surgical Review* 77:177-83. 1924.

WALTMAN WALTERS, M.D., M.S. in Surgery, Instructor in Surgery

Surgical significance of hepatic function. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:97-100. 1924; *Minnesota Medicine* 8:146-49. 1925.

The pre-operative preparation of handicapped surgical patients. *Annals of Surgery* 79:803-5. 1924.

The toxicity and rate of excretion of calcium chlorid from the blood stream (with J. P. Bowler). *Ibid.* 80:545-50. 1924.

Hepatic function. *Surgery, Gynecology and Obstetrics* 40:133-34. 1925.

Pre-operative preparation of patients with obstructive jaundice. An experimental study of the toxicity of intravenous calcium chloride used in the preparation of patients (with J. P. Bowler). *Ibid.* 39:200-206. 1924.

Pre-operative preparation of the handicapped surgical patient. *Surgical Journal* 30:244-45. 1924.

The effect of intravenous injections of calcium chlorid on the kidney (with J. P. Bowler). *Journal of the American Medical Association* 83:1232-36. 1924.

ARTHUR ULDERIC DESJARDINS, M.D., M.S. in Radiology, Medical Fellow on the Mayo Foundation

Dermatology and radiology. *Urological and Cutaneous Review* 28:383-84. 1924.

L'état actuel de la thérapie par les rayonnements dans le cancer. *Archives Médicales Belges* 77:557-70. 1924.

The reaction of abdominal tumors to radiation. *Journal of the American Medical Association* 83:109-13. 1924.

Diathermy: history, use, indications (with Ann Kelley). *Hospital Management* 18:48-49. 1924.

Anatomic cross-section charts of the average male and female figures. *Transactions of the Association of Resident and Ex-Resident Physicians of the Mayo Clinic* 5:55-58. 1924.

Radiotherapy in four unusual cases of malignant tumor. *Medical Clinics of North America* 8:1371-79. 1925.

Pleuropneumonitis following X-ray treatment, and diffuse metastasis to the lungs from cancer of the breast. *Radiology* 4:265-72. 1925.

Direct or indirect biologic effects. *Ibid.* 4:432-33. 1925.

## VETERINARY SCIENCE

JOHN GERARD HARDENBERGH, V.M.D., Instructor in Veterinary Science

Diagnosis and treatment of diseases of the skin of dogs. *Journal of the American Veterinary Medical Association* 66:313-20. 1924.

## THE SCHOOL OF BUSINESS

### ACCOUNTING

ERNEST A. HEILMAN, Ph.D., Associate Professor of Accounting

The accounting course at the University of Minnesota. *Journal of Accountancy* 39, No. 5:380-84. May, 1925.

NINA L. YOUNGS, B.A., Instructor in Accounting

Lectures in Accounting I for correspondence students, University of Minnesota. (Mimeo-graph sheets.) Minneapolis: University of Minnesota.



## ECONOMICS

GEORGE WILLIAM DOWRIE, Ph.D., Dean of the School of Business and Professor of Economics

Did deflation ruin the farmer and would inflation save him? *Journal of Farm Economics* 7:67-79. 1925.

ROY G. BLAKEY, Ph.D., Professor of Economics

New government bond issue criticized. *New York Times Annalist* 24:639, 650. 1924.

The revenue act of 1924. *American Economic Review* 14:475-504. 1924.  
*Reviews of*

Philip G. Wright, Sugar in relation to the tariff. *Annals of the American Academy of Political and Social Science* 117:294-95. 1925.

Thomas Walker Page, Making the tariff in the United States. *Ibid.* 119:154-55. 1925.

Eugenio Rignano, Social significance of the inheritance tax. *American Economic Review* 15:145-46. 1925.

FREDERIC B. GARVER, Ph.D., Professor of Economics

Pittsburgh plus. *American Economic Review* 14:192-93. 1924.

ALVIN HARVEY HANSEN, Ph.D., Professor of Economics

Factors affecting the trend of real wages. *The American Economic Review* 15:27-42. 1925.

The effect of price fluctuations on agriculture. *The Journal of Political Economy* 33:196-216. 1925.

Wholesale prices, 1801-1840. *Journal of the American Statistical Association* 29:377-81. 1924.

Wholesale prices in the United States, 1801-1840. *Bulletin of the Bureau of Labor Statistics* No. 367:235-48. January, 1925.

*Review of*

W. C. Schluter, The pre-war business cycle, 1907-1914. *The American Economic Review* 14:742-44. 1924.

BRUCE D. MUDGETT, Ph.D., Professor of Economics

*Reviews of*

William Henry Smith, Graphic statistics in management. *American Economic Review* 15:372-74. June, 1925.

Raymond Pearl and Lowell J. Reed, Predicted growth of population of New York and its environs. *Ibid.* 14:374. 1924.

F. W. Gist, Statistical method in agriculture. *Ibid.* 14:374-75. 1924.

I. S. Falk, The principles of vital statistics. *Ibid.* 14:375. 1924.

Truman L. Kelley, Statistical method. *Ibid.* 13:745-46. 1924.

C. H. Forsyth, An introduction to the mathematical analyses of statistics. *Proceedings of the Casualty Actuarial Society* 11:155-57. November 20, 1924.

H. L. Rietz, editor, Handbook of mathematical statistics. *Ibid.* 11:157-58. November 20, 1924.

WARREN C. WHITE, Ph.D., Assistant Professor of Economics

Market price analysis. *Journal of Farm Economics* 6:351-59. 1924.

Variations in prices of different grades of butter. *Hoard's Dairyman* 69:582. 1925.

JOHN FRANKLIN EBERSOLE, Ph.B., M.A., Professorial Lecturer in Economics

*Editor*, Crop and business conditions in Ninth Federal Reserve District. Nos. 114-115. July 28, August 28, 1924. 16 pages.

*Editor*, Monthly review of agricultural and business conditions in the Ninth Federal Reserve District. III. Numbers 116-124 inclusive. September 27, October 28,

November 28, December 27, 1924; January 28, February 28, March 28, April 28, May 28, 1925. 78 pages.

*Editor*, Tenth annual report of the Federal Reserve agent of the Ninth Federal Reserve District to the Federal Reserve Board, covering the calendar year 1924. 16 pages.

JAY L. O'HARA, B.A., Lecturer in Economics

Minnesota system of accounting. *Embalmers' Monthly* 37:62-67. 1924.

Diversification as a solution of variation in production in seasonal industries. *Michigan Hardware Trade Review* 11:162-74. 1924.

## THE GENERAL EXTENSION DIVISION ADMINISTRATION

RICHARD R. PRICE, M.A., Ed.D., Professor and Director of the University  
General Extension Division

The scientific study of problems in educational finance. *School and Society* 20:543-52. 1924.

## MUNICIPAL REFERENCE BUREAU

MORRIS B. LAMBIE, Ph.D., Associate Professor of Political Science and  
Chief of the Municipal Reference Bureau

Scoring the civil service laws. Report of the Round Table on the Personnel Problem, National Conference on the Science of Politics. *American Political Science Review* 19:135-43. February, 1925.

*Editor*, *Minnesota Municipalities*. 1924.

*Review of*

Report of the Efficiency Commission, The government of Kentucky. *National Municipal Review* 14, No. 4:255-56. April, 1925.

## INDEX

	Page		Page
Absences, among women students	151	Appointments	29-32
Accounting, faculty publications		College of Engineering and	
in	306	Architecture	97
Administration, publications of	246	Medical School	108
Administration Building	36	Appropriations	
Administrative measures	23-29	for buildings	10
Adult education, advance of	168	for research	140-41
Advanced standing, students admitted with	85-88	for University Hospital	14-16
Agreement, Glen Lake Sanatorium and University of Minnesota	23-24, 111	increasing of	10, 12-14
Agricultural Biochemistry, faculty publications in	269-71	lump sum appropriation	10-11
Agricultural Economics, faculty publications in	271-72	requests for	12-14
Agricultural Engineering, curriculum in	28	Art Education, faculty publications in	292
Agricultural Extension, faculty publications in	279	Arthur Upson Room	55-56, 223-24, 230
Agriculture, Department of		Astronomy, faculty publications in	257
degrees conferred	71	Attendance, decrease in Department of Agriculture	100
publications of faculty	269-79	Auditorium fund	36
registration statistics	65	Bacteriology, faculty publications in	281-82
report of the dean	100-104	Board of Public Welfare	40-44
bulletin on vocations	101	Board of Regents	
decrease in attendance	100	changes in membership	5-6
degree in Agricultural Engineering	100	resolution of	9
extension service	102	Botany	
honor point system	100	faculty publications in	258
intelligence tests	100	plan for building	36
schools of agriculture	101	Buildings, new and remodeled	
short courses	103-4	appropriations for	
use of Caleb Dorr funds	101-2	University of Illinois	12
Agronomy and Farm Management, faculty publications in	273	University of Michigan	12
All-University Council	158	University of Minnesota	11-12
Alumni Association	235	University of Ohio	12
fund	235	Department of Agriculture	
membership	234	campus	36-37
student interest in	234	gifts for	12
units	234	main campus	35-36
Analytical Chemistry, faculty publications in	291	Bulletin 20 of the State Geological Survey	208
Anatomy, faculty publications in	280-81	Bureau for Research in Government	
Animal Biology, faculty publications in	256-57	report of director	242
Animal Husbandry, faculty publications in	274	projects in process	242
Anthropology, faculty publications in	257	publications in	242
		Burton, Dr. Marion Leroy	7-9
		resolution concerning	9
		Business, School of	
		degrees conferred	71
		publications of faculty	306-8
		registration statistics	67

	Page		Page
Business, School of (continued)		Co-operative cottages .....	151
report of the dean .....	149	relocation of Northrop Cot- tage .....	36
building changes .....	149	Correspondence Study Depart- ment .....	164, 174-75
faculty .....	149	Curricula	
public service .....	149	Agricultural Engineering .....	28
student problems .....	149	College of Education .....	128-30
Campus Club, new quarters ....	36	Law School .....	105
Cancer Institute .....	12, 46-48	School of Chemistry .....	125
Carnegie Survey of Dental Education .....	115	School of Mines .....	121
Central School of Agriculture, subcollegiate enrolment in ....	68	Cuyuna Range ore, study of ...	207
Centralization of library units	221-22	Dad's Day .....	59-60
Changes in the faculties .....	29-35	Dairy buildings .....	36-37
Chaperonage .....	156	Dairy Husbandry, faculty publica- tions in .....	274-75
Chemical Engineering, faculty publications in .....	291	Dean of student affairs, report of .....	158-60
Chemistry, School of		All-University Council .....	158
degrees conferred .....	71, 125	dramatics .....	159
publications of faculty .....	291-92	finances and publications .....	158
registration statistics .....	66	fraternities and sororities ....	159
report of the dean .....	124-27	loan funds .....	160
amount of instruction .....	125	organizations in general .....	159
Colloid Symposium .....	125-27	self-supporting students .....	160
curriculum .....	125	student councils .....	158
faculty .....	124	student publications .....	158
special lectures .....	125-26	Veteran's bureau trainees ....	160
students .....	124	Dean of women, report of .....	150-57
Child Welfare, Institute of ....	27-28	absences .....	151
gift for .....	28	chaperonage .....	156
infants' home .....	28	delinquency .....	151
pre-school education .....	28	distribution of students as to residence .....	150
Children's Crusade .....	55	domestic employment .....	151
Citizen's Aid Society, gift of ..	12, 47	financial aid to students .....	157
City and village planning and zoning, monograph on .....	166	housing .....	151-53
Civil Engineering, faculty pub- lications .....	268	co-operative cottages .....	151
Collegiate enrolment by quarters	67	home economics dormitory ..	152
Collegiate students, registration by schools and colleges .....	65-67	home management houses ..	152
Colloid Symposium .....	126-27	rooming and boarding houses	153
Commencement exercises .....	57-58	Sanford Hall .....	151
Committee on Intramural Sports	186, 202	summer session .....	153
Comparative Literature, faculty publications in .....	258	scholarships .....	157
Comparative Philology, faculty publications in .....	258-59	Shevlin Hall .....	156
Comparative registration statistics	70	registration of women .....	150
Comptroller's report .....	249-55	women's organizations .....	153-56
disbursement summary .....	254-55	sororities .....	155-56
income summary .....	250-53	Women's Athletic Associa- tion .....	153-54
Concert courses .....	59	Women's Self-Government Association .....	153-54
Contagious disease among stu- dents .....	239	Young Women's Christian Association .....	155
Convocations .....	56-58	Deaths in faculty .....	35, 108
		Deferred rushing .....	232

	Page		Page
Degree in Agricultural Engineering .....	99, 100	Educational Administration and Supervision, faculty publications in .....	292-93
Degrees conferred .....	71-72	Educational institutions represented in the Graduate School ..	135-36
Dental department of Health Service .....	239-40	Educational Psychology, faculty publications in .....	293
Dental Nursing		Educational training of disabled veterans .....	25-26
degrees conferred .....	71	Electrical Engineering, faculty publications in .....	268-69
registration in .....	66	Elliot Memorial Hospital .....	46
Dentistry, College of		Employment Bureau	
degrees conferred .....	71	report of the clerk .....	243-46
faculty publications .....	289	applications .....	245
registration statistics .....	66	centralization of placement work .....	244
report of the dean .....	115	full-time permanent positions .....	246
Carnegie Survey of Dental Education .....	115	placing of graduates .....	244
promotions .....	115	scope of work .....	243-44
two-three plan of dental education .....	115	summary of permanent full-time positions .....	246
Dentists, short course for .....	173	summary of placements .....	245
Department of Community Service .....	164-65, 176-77	temporary positions .....	246
Disbursement summary .....	254-55	Engineering and Architecture, College of	
Dispensaries, Health Service ..	237	degrees conferred .....	71, 98
Distribution of graduate students according to year .....	131	publications of faculty .....	268-69
Distribution of women students according to residence .....	159	registration statistics .....	65
Doctor of laws .....	139	report of the dean .....	97-99
Doctors of philosophy .....	137-39	buildings .....	99
Domestic employment of women students .....	151	faculty .....	97
Dormitories		new courses and degrees ..	98-99
fees in .....	27	English, faculty publications in	259
home economics .....	153	Enrolment. <i>See</i> Registration.	
plan and bill for .....	21-23	Entomology and Economic Zoology, faculty publications in ..	275-76
statement submitted to legislature .....	20-21	Eustis, Mr. William Henry, gift of .....	12, 35, 44-45
Dorr, Caleb, gifts of .....	35, 101-2	Excuses for illness .....	239
Downtown offices of Extension Division .....	161-62	Experimental Engineering laboratories addition .....	36, 99
Drama Branch of General Extension Division .....	177	Extension Division. <i>See</i> General Extension Division; Department of Agriculture, Extension Service	
Dramatics .....	159	Extension students as students in residence .....	69, 161
Economics, faculty publications in .....	307-8	Faculties	
Education, College of		changes in .....	29-35
degrees conferred .....	71	appointments .....	29-32
faculty publications .....	292-93	leaves of absence .....	33-34
registration statistics .....	67	promotions .....	32-33
report of the dean .....	128-30	resignations .....	34-35
curriculum .....	128-30	deaths .....	35
demand for trained superintendents .....	128	publications of. <i>See</i> Publications of faculties	
recommendation for training of superintendents .....	128-30		
student body .....	128		

	Page		Page
Faculty advisers .....	94-95	General Extension Division	
Farmers and Home Maker's		report of director	
Course .....	103-4	appendix to (continued)	
Fees		Correspondence Study De-	
changes in .....	26-27	partment .....	174-75
extension, late registration		Department of Community	
fee .....	27	Service .....	176-77
general deposit fee .....	26	drama branch .....	175
graduate student fees .....	27	short courses .....	171-74
graduation fee .....	27	summary of classes for	
men's dormitories .....	27	year .....	168-77
Sanford Hall .....	27	Visual Instruction Serv-	
special students in dentistry	26-27	ice .....	177
summer session late registra-		conferences .....	166
tion fee .....	26	Correspondence Study De-	
Extension Division .....	169-70	partment .....	164, 174-75
Field secretary and General		Department of Community	
Alumni Association, report of		Service .....	164-65, 176-77
secretary .....	234-35	downtown offices .....	161
alumni fund .....	235	extension classes .....	163
alumni membership .....	235	extension students as stu-	
alumni units .....	235	dents in residence .....	161
stadium-auditorium fund .....	235	faculty changes .....	161
student interest in association	235	fees .....	169-70
Finances of student publications	158-59	Legislative Reference Service	166-67
Financial aid to students .....	157	Municipal Reference Bu-	
Financial report. <i>See</i> Comptrol-		reau .....	161, 165
ler's report		music contests .....	163, 167
Flour and Corn Exchange prop-		new quarters .....	163
erty .....	35	publications .....	166
Folwell, Dr. William Watts, con-		short courses .....	162-63, 164, 171-74
ferring of honorary degree		student organizations .....	162
upon .....	52-54	General Education Board, gift of	34-44
Forestry, Division of, land		General Hospital Act .....	14-16, 17-20
purchased for .....	36	General Museum subscription	
Forestry, faculty publications in	276	fund .....	220
Fraternities and sororities .....	159, 233	General policies of legislation ..	9-14
Free dispensary, College of		General practitioners, short courses	
Pharmacy .....	123	for .....	171-72
Freshmen scholastic standing ..	223	Geography	
Full- and part-time students in		establishment of Department	
Graduate School .....	131	of .....	24
Gale, Mrs., gift of .....	12	faculty publications in .....	259
General Alumni Association .....	234	Geographical distribution of stu-	
General deposit fee .....	26	dents of collegiate grade .....	88-92
General Extension Division		Geological Survey	
late registration fee .....	27	report of the director .....	207-8
publications of faculty .....	308	Bulletin 20 of the State Geo-	
registration statistics .....	62, 69	logical Survey .....	208
report of director .....	161-77	investigations of Paleozoic	
adult education .....	168	formation .....	207
appendix to .....	168-77	Mesabic Range study .....	207
comparative statement of		St. Louis and Lake coun-	
extension classes .....	170	ties, mapping of .....	207
comparisons for last five		study of Cuyuna Range ore	
years .....	175	study of water resources ...	208
		survey of Keweenaw area	207
		Geology and Mineralogy, faculty	
		publications in .....	259-60

	Page		Page
German, faculty publications in	260	Health Service of University	
Gifts	37-39	report of director (continued)	
Arthur Upson Room	223-24, 230	hospitals	238
Citizen's Aid Society of Min-		laboratory and X-ray work	240-41
neapolis	12	medical service	237
General Education Board gift	39-44	mental hygiene	239
Mr. Eustis, gift of	12, 44-45	physical examinations	236-37
Mrs. Gale, gift of	12	professional staff	236
Mrs. Mapes, gift of	12	table of services rendered	237
Mrs. Todd, gift of	12	sanitation	241
to library	230-31	smallpox	239
Glen Lake Sanatorium, agree-		vaccinations	239
ment with	23-24	Heating plant, construction of	36
<i>Gopher</i>	158	History, faculty publications in	261
<i>Gopher Business News</i>	158	Home Economics	
<i>Gopher Countryman</i>	158	dormitory	153
Graduate School		publications of faculty	276
degrees conferred	72	Home management houses	152
lectureship fund	58	Honor point system	100
publications of faculty	294-306	Honorary degrees	
registration statistics	67	at other institutions	49-52
report of the dean	131-41	degree conferred upon Dr. Fol-	
appropriations for research	140-41	well	52-54
doctor of laws	139	Horticulture, faculty publications	
doctors of philosophy	137-39	in	276-77
educational institutions repre-		Hospitals, for students	238
sented	135-36	Housing	151-53
masters and engineers de-		for nurses	112
grees granted	134	summer session	153
publications	139-49	Hygiene, special short course in	174
registration	131-41		
distribution according to		Improvement of the law	106-7
year	131	Improvements and buildings	35-37
full- and part-time stu-		Income summary	250-53
dents	131	Increase in use of library	234
members of staff registered	131	Increasing appropriations	10, 12-14
students majoring in vari-		Infants' home	28
ous departments	132-33	Inorganic Chemistry, faculty pub-	
Graduate student fees	27	lications in	291
Graduation fee	27	Institute of Child Welfare. <i>See</i>	
Great Northern Railway Com-		Child Welfare, Institute of	
pany, transaction with	36	Intelligence tests	95, 100
Greenhouse, construction of	36	Intercollegiate athletics	188-96
		Interfraternity Council	
Health education	236	report of the president	232-33
Health Service of University		deferred rushing	232
report of director	236-41	fraternity parties	233
comparative statistics	237	freshman scholarship	233
conditions treated	238-39	membership	232
contagious diseases	239	scholarship	232
cost of service	240	Interior decoration, bachelor of	
dental department	239-40	science degree in	99
dispensaries	237	Intramural athletics	184-88
dispensary visits	238	committee on	186, 202
excuses for illness	239	Iron ore, studies of	207
general statement	236		
health education	236	Laboratory and X-ray work in	
hospital patients	238	Health Service	240-41

	Page		Page
<i>Law of Special Assessments</i> . . . . .	166	Mathematics, faculty publications	
Law School		in . . . . .	261-62
degrees conferred . . . . .	71	Mathematics and Mechanics, faculty publications in . . . . .	269
publications of faculty . . . . .	279-80	Mayo Foundation	
registration statistics . . . . .	65	registration statistics . . . . .	67
report of the dean . . . . .	105-7	report of director . . . . .	141-48
curriculum . . . . .	105	degrees conferred . . . . .	146
faculty . . . . .	105	faculty . . . . .	141
improvement of the law . . . . .	106-7	fellows and graduate students . . . . .	141-42
library . . . . .	107	financial report . . . . .	141
<i>Minnesota Law Review</i> . . . . .	107	general and financial report . . . . .	144-45
pre-legal training . . . . .	105	general plan of work . . . . .	137-48
registration . . . . .	105	graduates . . . . .	142
scholarship . . . . .	106	lectures . . . . .	142-43
League of Minnesota Municipalities . . . . .	166	medical education . . . . .	145
Leaves of absence . . . . .	33-34	publications and studies . . . . .	143-44
Business School . . . . .	149	Mayo Foundation for Medical Research, Bacteriology and Immunology, faculty publications in . . . . .	294-95
College of Engineering and Architecture . . . . .	97	Mechanical Engineering, faculty publications in . . . . .	269
Lecture Service of Extension Division . . . . .	176	Medical School	
Lectureship fund of Graduate School . . . . .	58	degrees conferred . . . . .	71
Legislation . . . . .	9-23	publications of faculty . . . . .	280
building fund . . . . .	10, 11-12	registration statistics . . . . .	65
dormitories . . . . .	20-23	report of the dean . . . . .	108-10
General Hospital Act . . . . .	17-20	changes in faculty . . . . .	108-9
increasing appropriation . . . . .	10, 12-14	increase in limit of freshmen plans for expansion . . . . .	110
lump sum appropriation . . . . .	10-11	Todd Building and Cancer Institute . . . . .	110
State Department of Administration and Finance . . . . .	16-17	Medical School facilities	
Legislative Reference Service . . . . .	166-67	at other universities . . . . .	41-42
Library, Law . . . . .	107	at University of Minnesota . . . . .	41-42
Library, University		Medical service rendered to students . . . . .	237
publications of librarian . . . . .	256	Medical technicians, registration of . . . . .	66
report of librarian . . . . .	221-31	Medicinal plant garden . . . . .	123
Arthur Upson Room . . . . .	223-24	Medicine, faculty publications in . . . . .	282-83, 295-99
binding . . . . .	230-31	Members of staff registered in Graduate School . . . . .	131
catalog department . . . . .	228-29	Mental hygiene . . . . .	239
centralization . . . . .	221-22	Mesabi Range, report on iron-bearing series . . . . .	207
circulation department . . . . .	228	Military Science and Tactics, Department of	
further needs . . . . .	225-26	report of officer in charge . . . . .	206
gifts . . . . .	230	advanced R. O. T. C. course . . . . .	206
increase in use of library . . . . .	224	cadet rifle team . . . . .	206
new building . . . . .	221	inspection by War Department . . . . .	206
order department . . . . .	229-30	Miller Hospital, co-operation with . . . . .	40
reference department . . . . .	227		
resolution of University Senate . . . . .	223		
sale of publications . . . . .	227		
Loan funds . . . . .	35, 157, 160		
Loring Cottage . . . . .	151		
Lyceum Branch of Extension Division . . . . .	165, 176		
Mapes, Mrs., gift of . . . . .	12		
Masters and engineers degrees . . . . .	134		



	Page		Page
Mines, School of		Nursing, School of (continued)	
degrees conferred	71	registration statistics	66
publications of faculty	290	report of director	110-12
registration statistics	66	agreement with Glen Lake	
report of the dean	116-21	Sanatorium	111
attendance	121	housing situation	112
curriculum	121	registration	110-11
faculty	120	work in contagious disease	111-12
Minnesota Tax Commission	118-19	work of Miss Powell and Dr.	
object	118	Beard	111
personnel	119	Obstetrics and Gynecology, fac-	
services	119	ulty publications in	283, 299
registration	120	Old Library, remodeling of	36
School of Mines Experiment		Ophthalmology and Oto-Laryn-	
Station	116-17	gology, faculty publications	
activities	117	in	283-84, 299-300
assays and tests	116	Oral Hygiene and Pathology,	
gifts and loans	116	faculty publications in	289
new equipment	116	Orthopedic work in physical ed-	
personnel	116	ucation	182-83
publications	116	Orthopedics, faculty publications	
Minnesota Daily	158	in	284
Minnesota Highway Department		Paleozoic formations, investiga-	
co-operation with	92	tion of	207
Minnesota Law Review	107, 158	Pathology, faculty publications	
Minnesota Municipalities	166	in	284-85, 300-301
Minnesota Quarterly	158	Pediatrics, faculty publications	
Minnesota Tax Commission	118-19	in	285-86, 301
Minnesota Union		Pharmaceutical Chemistry, fac-	
report of president of board	247-48	ulty publications in	291
board of governors	247	Pharmacology, faculty publica-	
building fund	248	tions in	286
origin and progress	247	Pharmacy, College of	
responsibility of regents and		degrees conferred	71
board	247	publications of faculty	290-91
value of Union	248	registration statistics	66
Mother's Day	59-61	report of the dean	122-23
Motley School property, purchase		building and equipment	123
of	36	changes in staff	122
Municipal Reference Bureau	161, 165, 308	college exhibit	122
Music, faculty publications in	301	free dispensary	123
Music contest	162, 167	graduation	122
Museum. See Zoological Survey		instruction	122
and Museum		medicinal plant garden	123
Needs of the University	6-7	pharmaceutical research	122
North Central Experiment Sta-		pharmaceutical service	123
tion, Bureau of Mines	117	registration	122
Northern Pacific Hospital, co-		scholarship prizes	122
operation with	40	State Pharmaceutical Associa-	
Northrop Cottage	151	tion	123
Northwest School of Agriculture	101	supplies budget	123
Health Service Building	37	Philosophy, doctors of	137-39
paving roads at	37	Philosophy, faculty publications	
subcollegiate enrolment	68	in	262
Nursing, School of		Physical Chemistry, faculty pub-	
degrees conferred	71	lications in	292
publications of faculty	289		

	Page		Page
Physical Education and Athletics, Department of		Physical Education for Women, Department of (continued)	
publications of faculty .....	262	revision of freshman training course .....	199
report of director .....	182-98	silhouettograph .....	199
intercollegiate athletics .....	188-96	student hours per week .....	205
administrative policies .....	188-89	University High School .....	202
baseball .....	193	Women's Athletic Association .....	201
basket-ball .....	190-91	Physical examinations .....	204, 236-37
cross-country .....	193	Physics	
football .....	189-90	plan for building .....	36
golf .....	191	publications of faculty .....	262-63
gymnastics .....	193-94	Physiology, faculty publications in .....	286-87
hockey .....	192-93	Physiology and Physiologic Chemistry, faculty publications in .....	301
rifle shooting .....	194, 195	Plant Pathology and Botany, faculty publications in .....	277-78
Senate Committee on .....	195-96	Political Science, faculty publications in .....	263-64
swimming .....	192	Poultry Husbandry, faculty publications in .....	278
tennis .....	194	Pre-legal training .....	105
ticket admission .....	195	Pre-school education .....	27
wrestling .....	194	Preventive Medicine and Public Health, faculty publications in .....	287-88
intramural athletics .....	184-88	Prizes, scholarship, College of Pharmacy .....	122
changes in .....	184-86	Professional training courses, athletics .....	196-98, 204
Committee on .....	186	Promotions .....	32-33
statistical table .....	186-88	College of Dentistry .....	115
professional training course .....	196-98	College of Engineering and Architecture .....	97
curriculum .....	197	School of Business .....	149
faculty .....	197	School of Medicine .....	108
summer courses .....	197-98	Properties purchased .....	36-37
required physical education .....	182-84	Psychology, faculty publications in .....	264-65
orthopedic work .....	182-83	Publications of faculties	
personal hygiene .....	184	Administration .....	256
registration and distribution of grades .....	182	College of Dentistry .....	289
swimming .....	184	College of Education .....	292-94
Physical Education for Women, Department of		College of Engineering and Architecture .....	268-69
publications of faculty .....	262	College of Pharmacy .....	290-91
report of director .....	199-205	College of Science, Literature, and the Arts .....	256-68
Committee on Intramural Sports .....	202	Department of Agriculture, Forestry, and Home Economics .....	269-79
critic teachers .....	200	General Extension Division .....	308
enrolment .....	203-4	Graduate School .....	294-95
extension classes .....	204	Law School .....	279-80
non-professional .....	203	Medical School .....	280-89
professional .....	204	Municipal Reference Bureau .....	308
summer session .....	204		
University High School girls .....	204		
equipment .....	203-4		
faculty .....	199		
graduates .....	200-201		
objectifying the teaching of gymnastics .....	199-200		
Physical Education Association .....	200		
physical examinations .....	204		
report of tournaments and demonstrations .....	205		

# INDEX

317

	Page		Page
Publications of Faculties (con- tinued)		Resignations (continued)	
School of Business .....	306	Medical School .....	108
School of Chemistry .....	291-92	School of Nursing .....	111
School of Mines .....	290	Rockefeller, Laura Spellman, Memorial gift .....	28
University Library .....	256	Roentgenology, faculty publica- tions in .....	302
Recent legislative changes		Romance Languages, faculty pub- lications in .....	265-66
building fund .....	10, 11-12	Rooming and boarding houses ..	153
increasing appropriation .....	10, 12-14	St. Louis and Lake counties, mapping of .....	207
lump sum appropriation .....	10-11	Salary schedule for clerical staff .....	24-25
State Department of Adminis- tration and Finance .....	16-17	Sanford Hall .....	151
Registration		alterations in .....	27
law school .....	105	fees in .....	36
registration of women .....	150	Sanitation .....	241
College of Agriculture and Home Economics .....	150	Scandinavian, faculty publica- tions in .....	266
College of Dentistry .....	150	Scholarship prize in pharmacy ..	122
College of Education .....	150	Scholarships for women .....	157
College of Engineering and Architecture .....	150	Scholastic standing .....	153, 155
College of Pharmacy .....	150	"C" average .....	233
College of Science, Litera- ture, and the Arts .....	150	as requirement for senior college entrance .....	95
Dental Nurses .....	150	in Law School .....	106
Graduate School .....	150	Schools from which entrants were accepted .....	73-84
Law School .....	150	Schools of Agriculture .....	101
Medical School .....	150	School of Mines Experiment Station .....	116-17
School of Business .....	150	Science, Literature, and the Arts, College of	
School of Chemistry .....	150	degrees conferred .....	71
School of Nursing .....	150	publications of faculty .....	256-68
technicians course .....	150	registration statistics .....	65
war specials .....	150	report of the dean .....	94-96
statistics of registration .....	61-93	enrolment .....	94
Table I, Collegiate students by schools and colleges ..	65-67	faculty .....	94
Table II, Collegiate enrol- ment by quarters .....	67	faculty advisers .....	94-95
Table III, Subcollegiate stu- dents .....	68	graduates .....	94
Table IV, Extension division students .....	70	improvement of teaching ..	94
Table V, Summary .....	69	intelligence tests of high school seniors .....	95
Table VI, Comparative reg- istration figures .....	70	measures of student ability recommendations for junior college degree .....	95
Table VII, Degrees conferred ..	71-72	scholastic requirement for senior college entrance ..	95
Table VIII, Schools from which entrants were ac- cepted .....	73-74	teaching load in student units .....	94
Table IX, Students admitted with advanced standing ..	85-88	Self-supporting students .....	160
Table X, Geographical dis- tribution of university stu- dents of collegiate grade ..	89-93	Senior advisory work .....	153
Resignations .....	34-35	Shevlin Hall .....	156
College of Engineering and Architecture .....	97	Short courses	
General Extension Division ..	161	agriculture .....	103-4
Law School .....	105	Extension Division 162-63, 164, 170-74	
		registration in .....	68
		<i>Shi-U-Mah</i> .....	158

	Page		Page
Sociology, faculty publications in	266-68	University Hospital (continued)	
Sororities	155-56	report of the superintendent	112-14
Special lectures, in School of		comparative statistics	112-13
Chemistry	125-26	general conclusions	114
Special students in dentistry, fees		Social Service Department	113-14
of	26-27	field of service	113
Stadium, play space in	36, 54-55	personnel	113-14
Stadium-auditorium fund	234	statistics	113
State Department of Administration and Finance	16-17	students	113
State Pharmaceutical Association	123	University Library. <i>See</i> Library, University	
Student councils	158	University Museum budget	220
Student loans	35	University's greatest need	6-7
Student problems	149	Urology, faculty publications in	288
Student organizations	159-62		
Students admitted with advanced standing	85-88	Vaccinations	239
Student publications	158	Veteran's Bureau trainees	160
finances of	158-59	Veterinary Medicine, faculty publications in	278-79
Subcollegiate students, registration of	68	Veterinary Science, faculty publications in	306
Summer Session		Visual Instruction report	177
late registration fee	26	Visual Instruction Service	177
registration statistics	60, 70	Vocations, bulletin on	101
report of the director	178-81		
attendance, comparative statistics	179	War specials, registration	67
enrolment and course registration by colleges	180	West Central School of Agriculture	
finance	180	plans for dormitory	37
policies of administration	178	subcollegiate enrolment in	68
recreation	181	Winchell cottages	152
Surgery, faculty publications in	288-89, 302-6	Women's Athletic Association	154
Teachers, need for better	7	Women's organizations	153-56
<i>Techno-Log</i>	158	Women's Self-Government Association	153-54
Textiles, color, and design, short courses in	173-74	Young Women's Christian Association	155
Theory and practice of teaching, faculty publications in	293		
Todd, Mrs., gift of	12	Zoological Survey and Museum	
Todd Memorial Hospital	46-48	report of the director	209-20
Trade and Industries, faculty publications in	293-94	accessions to the museum	215-16
Training superintendents, recommendations and demand for	128-30	attendance	210-11
United States Bureau of Mines	117-18	complete lecture schedule	212-14
United States Pharmacopeia	122	co-operation	216-17
University convocations	56-57	correspondence	217-18
University Health Service. <i>See</i> Health Service, University		course in ornithology	219
University High School		exhibits	211-12
faculty publications	294	field work	219-20
physical education in	202	finance	220
registration in	202	general administration	209-10
University Hospital		photography	217
need of greater appropriation for	14-16	publications	217
		publicity	218-19
		study collection	215
		Sunday afternoon lectures	214-15
		Zumbra Heights Fruit Breeding Station	37