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Minnesota

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to the Board of Regents
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NATURE OF THIS REPORT

Every two years the president of the University prepares a comprehensive report which he submits to the Board of Regents. This present report for the biennium 1936-38 falls into three broad sections. First, there is a discussion of educational problems and policies, both in general and as they relate specifically to the University of Minnesota. The second part of the report includes a series of brief statements pertaining to events in the life of the University during the period. The third section consists of the reports from the deans of the colleges and the heads of various other administrative units. A reader who turns the pages of this volume and studies the materials that are presented in them will have a reasonably comprehensive picture of activities at the University of Minnesota during the biennium. He will also have some conception of the educational philosophy in terms of which those activities have been carried forward. He will see, too, that the University has made steady progress, and that it continues to play its part in providing instruction to the youth of the state and service to the citizens.

This report for the biennium 1936-38 has particular significance, for it is the last one to be prepared by President Lotus Delta Coffman. Only a few days before his death, on September 22, 1938, he completed the manuscript that constitutes the first nineteen pages of this volume. Here, under the challenging heading of "Freedom through Education" he introduces some of the questions about which he had been thinking in recent months. The reader of those pages will find timely and mature observations of an outstanding educational leader upon the problems of youth, the nature of leisure, the significance of unemployment, the conflict of totalitarianism and democracy—all of these topics presented, as the general title suggests, in relation to the achievement of individual and social freedom through education. The president concluded with a restatement of the arguments he has previously advanced in connection with movements to decentralize the University through the establishment of branch units.

President Coffman's work is done. This report, and those that have preceded it during the eighteen years of his administration, contain the official record of educational accomplishment and public service that is the history of the University of Minnesota under the guidance of a respected, trusted, and kindly leader.

MALCOLM M. WILLEY,

University Dean and Assistant to the President

THE PRESIDENT'S REPORT

*To the Honorable Board of Regents
University of Minnesota*

GENTLEMEN: I have the honor to submit herewith a report covering the activities, programs, and progress of the University of Minnesota for the biennium ended June 30, 1938.

In the reports which I have written of the previous biennia it has been possible for me to present a continuous story of the work and activities of the University, but I cannot do so in this one for the reason that I was absent from the University during the second year of the biennium because of illness. At the meeting of the Board of Regents on September 25, 1937, a year's leave of absence was granted me in order that I might have the rest and time necessary for the recovery of my health.

At the same meeting Dean Guy Stanton Ford was elected acting president of the University for the year 1937-38. Dean Ford was already familiar with the general policies of the administration and he enjoyed the confidence of students and faculty alike. Once before, in the fall and winter of 1931-32, Dean Ford served as acting president for five months when I was absent visiting the universities of New Zealand and Australia and lecturing at the University of the Philippines.

A YEAR OF VAST IMPORTANCE

The second year of the biennium proved to be one of vast importance in the life of the University, and great progress was made in a number of respects. Among the important steps that were taken, these may be specifically called to attention:

1. The establishment of a classified service for the nonacademic employees of the institution.
2. The adoption of a plan for group hospitalization service for faculty and employees.
3. The filling of the deanship of the College of Education, the directorship of agricultural extension, and a number of vacant professorships.
4. The acceptance of a gift of \$122,260 from the General Education Board for the preparation of educational films.

Finally and most important of all was the preparation of the budget, allotting the increase which the legislature had granted the University the preceding year.

Every important question and issue was met in a statesmanlike manner and the University moved steadily forward under Dean Ford's administration. He was ably assisted by Dean Malcolm M. Willey and Comptroller William T. Middlebrook. I am happy to bear testimony that the University made great strides forward under the intelligent leadership of its acting president and the co-operation which he received from his associates.

UNEMPLOYED YOUTH

In this report for the biennium 1936-38 I shall touch upon many matters that are of concern to education, both at the University and in general. My discussion centers around the theme "Freedom through Education."

Both two years ago and four years ago I commented at length in my report on the youth problem. I called attention to the number of youth between the ages of sixteen and twenty-four who were out of school and out of work and I pointed out that there are three things that youth desire and need: (1) opportunity for education, (2) opportunity for steady employment at reasonable wages, and (3) security in their work.

A recent study of the American Youth Commission reveals that last year there were in this country about 3,400,000 young persons of the age group I have mentioned who were out of work and not in school; they constitute nearly one third of the total unemployment problem. The number of unemployed young people is greater in the urban centers than in the rural communities, and it is also greater in the poorer than in the richer regions of the country. A careful study of over 13,500 youth in Maryland by the American Youth Commission shows that the so-called youth problem resolves itself almost entirely into a desire for work at decent wages under conditions that offer an opportunity for advancement and for matrimony.

Many new agencies have been established to help youth. Some of these are of a voluntary nature, others are governmental. More and more state and federal governments have been assuming a share of the responsibility for aiding young people. The activities of the Civilian Conservation Corps, the National Youth Administration, the Civilian Works Administration, and work projects under the Works Progress Administration are illustrations in point. Many of the programs thus far evolved to assist youth have been, or were assumed to be, emergency programs. They have been developed to meet abnormal situations. In most instances there was little or no time for thought or planning. An immediate condition had to be faced; there was no opportunity to look far ahead and to shape plans today in terms of tomorrow.

But there is now need for stocktaking. No one can say with certainty what the effect of the depression policies has been. No one can say with certainty in what form any of the agencies dealing with youth should be continued.

YOUTH AND ECONOMIC UNCERTAINTY

The method which democratic peoples have used in the past to solve the unemployment problems of youth has been to send them to school, and that method, of course, has been used extensively in recent years. Schools are crowded with students; not merely the secondary schools, but the colleges and the universities, and their evening and extension classes have greatly increased registrations.

Nevertheless, with all of the generous help the government has given and with the expansion of our educational programs, the youth problem still seems as acute as it was five years ago. We do not know how to bridge the gap between school and employment; indeed, we do not know

what employment is needed, nor where. Authentic information concerning industrial needs is lacking. We do know that many trades and occupations have all but disappeared or are disappearing and that new ones are coming into existence, but just which ones are disappearing and which ones are being created is by no means clear. The leaders in the fields of vocational guidance and vocational training therefore are at a loss to know how to proceed in meeting the problems that face them.

The history of the unemployed youth of the Maryland study indicated that most young people secure temporary employment. They get jobs that pay ten or twelve or fourteen dollars a week. Often they are employed only two or three days a week. Such employment conditions make it impossible for them to earn enough to continue their schooling or for them to marry and establish homes of their own. Much of the so-called discontent of young people is directly traceable to their economic uncertainty.

It is said, and probably with truth, that we shall have a permanent unemployment problem in this country. It is also true that our population is getting older. There are more fifty- and sixty-year-old persons with each census and the birth rate is steadily declining. In a comparatively few years we shall have, in the United States, a stationary population. These facts present a dilemma. On the one hand the average age of entering employment is increasing (it is now about eighteen) and on the other, the length of industrial life is decreasing—and all along the line there are the uncertainties of unemployment. It appears that the normal desire of men to work is being crushed between relentless social forces, the control of which is still in some distant future.

National surveys of vocational changes, the maintenance of national and state and community vocational clinics, and the establishment of vocational schools on an experimental basis at least, would help in relieving the situation somewhat. But until young people can be put to work, not sent to school or placed in a training camp, they will be unsatisfied and unhappy, their condition will be unstable, and the youth problem from their point of view will be unsolved.

TRUE SIGNIFICANCE OF LEISURE

For many years there has been much talk concerning the importance of leisure, and it is true that for most men and women the amount of leisure has increased. Recreational and quasi-educational programs have been launched and fostered to enable men to utilize their leisure time more effectively. There has been an extension of library facilities, community programs have been organized, parks and playgrounds have been expanded, radio programs have been prepared, and in countless ways the attempt has been made to make the free time of the people of more value to them. The use of leisure to promote one's own growth, and through this to promote the improvement of the community, is one of the fine aspirations of a democratic people. Granting all of this, and commending the efforts that are expended to further a more adequate use of leisure, as one looks back over the past few years he cannot fail to be impressed with the fact that there are two kinds of leisure. There is first the leisure that comes to employed men and women and their families through the

normal reduction of the working day and the gradual extension of vacation time. Unfortunately there is the second type of leisure—forced upon men and women by the play of those social forces to which I have already referred. This is the unwanted leisure of unemployment and partial employment. This is the leisure that is associated with crime and social discontent.

It is not difficult to deal with leisure of the first type. Citizens who are secure in their jobs quickly learn to utilize the opportunities that surround them, and in this country they have utilized the facilities of recreational programs as do no other people on earth. It is enforced leisure that, like the ancient virtues, tends to become a menace through overindulgence. Recreational programs may serve a purpose with the unemployed of all ages, but they offer no permanent solution to the fundamental problems that we are confronting. In all our zeal to further them, this fact is sometimes overlooked.

The point to which I am moving is this: Men like to earn for themselves the things of life that bring them satisfaction. They like to provide the furnishings for their homes, the clothes for themselves and their families, the foods for their table; and they like to provide, too, for more than the mere subsistence needs. Men like to buy pictures for their walls, flowers for their gardens, wholesome amusement, and a list of other items and services that everyone can extend almost indefinitely from his own experience. Men do not want these things given to them; they want to participate in acquiring them. Young people are no exception to this universal principle; they, too, want above all else the opportunity to work, to the end that from the income of their labors they may acquire those things that contribute to the enjoyment of life.

I do not mean to imply that there should be fewer parks, fewer libraries, fewer orchestras and concerts, and less opportunity for recreation. What I am saying is that if the report of the American Youth Commission is to be accepted and believed, the youth of this country want the chance, through work, to help pay for these things and these services by exercising their own earning capacity. The youth problem is still essentially and fundamentally a work problem. Education and work, out of which develop the sound utilization of leisure, are the twin stepping-stones to the kind of life most people—and especially young people—want to lead.

POINTING THE WAY TO SOLUTIONS

I do not believe that the youth problem can be solved without the co-operation of all the agencies and groups interested in it. The government cannot solve it alone, nor can industry, nor labor, nor education, although each has something to contribute toward its solution. Nor can those agencies solve the problem merely by sitting down together. A vast amount of information about youth, their distribution, their age levels, their ambitions and abilities, about industry and its changing character, about labor and its potentialities, about government and its responsibilities, and about education and its opportunities is necessary before effective conferences are held. No state has made such a thorough-going study nor outlined an adequate youth program. We are still estab-

lishing new schools where they are not needed, providing relief which is only a palliative, closing trades to apprentices for fear of an oversupply of workmen, learning nothing about the vocational changes and needs of the country—in short little or nothing of a constructive nature is being done. We have an opportunity in Minnesota to point the way.

THE NEW FREEDOM AND ESTABLISHED VALUES

It is difficult to plan with certainty for the future and the difficulty is greatly increased when one deals with a situation, the nature, color, and atmosphere of which are modified by the impact of myriads of unpredictable human factors. Planning does not mean that we should destroy everything that is old and start anew; nor does it mean that we should hold too tenaciously to the forces of the past. Everyone realizes that we are living in a time of great change and bewildering confusion. We want to do something, but often we are not certain what should be done. One of the inherent weaknesses of democratic peoples everywhere is their tendency to "do something at once," and then to do their thinking afterwards. They attack customs, traditions, and ideals with impunity, demand early or instantaneous reforms, and say things with the avowed purpose of shocking somebody. Under these conditions there is always latent the danger that the nonintellectual forces will be overemphasized and that thoughtful and deliberate judgment based upon carefully winnowed information will be subordinated to emotional drives or current prejudices. No matter where one looks—in politics, government, social reform, in art, literature, music, or in education—he observes a tendency to emphasize expressionism.

The insecurity and uncertainty of men everywhere account in large measure for the widespread attack upon the established values, customs, and traditions in social and political life. The attack upon these values has been accompanied by an undermining of authority and a disrespect for tradition. The masses, as Ortega y Gasset declares, are demanding something different and new, and to obtain whatever they desire they are wielding the power which they have suddenly discovered they possess.

DANGERS OF LITERACY

The most powerful instrument ever placed in the hands of man in his struggle for emancipation is literacy—a mastery of reading and writing. Only by the intelligent use of this instrument can the masses of the population share in the benefits of a liberal democracy. In no other way can they come into a full enjoyment of science, of art, of culture, of all the advantages of civilization. But man's longing for a better world may be thwarted by an inadequate or incompetent education.

Literacy is the instrument through which democracy is achieved, but literacy alone will not promote or insure democracy. Misused it may become debased into the propaganda of demagogues or of a self-seeking press and radio. The common man rose from low estate when he became literate, but through that step he exposed himself as never before to the wiles of those who appeal to emotions rather than to reason. The dangerous fact is that much of the printed matter that the citizen reads and most

of the addresses that he hears are not factual or judicial in character, but are prepared and presented with some personal motive rather than the public welfare in mind. Instead of enabling man to acquire more knowledge and more power because of that knowledge, literacy may create merely illusions of knowledge and power.

We know what men want. They want more of the gains that are achieved through science; more of the comforts of life; more freedom for growth and recreation; greater security in their employment and old age; protection against the ravages of disease; the right to educate their children. Through centuries there has been an unending struggle to obtain these blessings. It is not strange that men should now feel that they are almost, if not quite, within their grasp. The accumulation of knowledge and the wonders that have, even in our generation, been wrought by its practical application inevitably engender a sense of power and accomplishment. Belief in a new freedom follows naturally, manifesting itself in every line of endeavor. Leaders—whether in politics, social welfare, literature, music, art, education, religion—express themselves with a daring and dash which attract attention at once. And unnumbered men and women, urged on by their desire to secure a more abundant life, follow their leaders with a trust that is terrifying. Education is supposed to train us in independence of thought and to instill in men greater poise and independence in thinking. Freedom is undoubtedly one of the chief goals of life, but not its only one. In conjunction with it one is supposed also to learn the lessons of duty and responsibility. Freedom without an impelling sense of responsibility is license, and responsibility with no respect for the welfare of others is stagnation. Human progress ensues only when there is a proper regard for both freedom and responsibility.

In an address delivered at Melbourne University in Australia, Dr. I. L. Kandel, of Columbia University, had this to say on this very point:

As the bonds of authority and tradition were loosened, as faith declined, as ideals and standards of conduct and taste became confused even in the minds of leaders, the common man in turn had nothing to fortify him against the bombardment of new sensations and without a sense of any categorical imperative the individual became the measure of all things. The growing contempt for intellectualism and the constant jibes at culture or the Genteel Tradition as the marks of bourgeois liberalism compelled the intellectual to seek the approval of the masses on their own terms. . . . In the end it almost looks as though the desire to disseminate culture has resulted in spreading only a thin veneer. . . . Hence an illusion of knowledge and an illusion of power without any penetrating influence upon character or enlightenment, and on those illusions each man claims the right to philosophize. Rationalization has taken the place of reason and emotions have usurped the place of intelligence, and as a result of both the emphasis has been placed upon the satisfaction of rights rather than upon the assumption of obligations. And yet the individual by a paradox is mistrustful of himself and prefers the contagious enthusiasm and strength of mass action in his work and in his recreation.

DEMOCRACY OR TOTALITARIANISM?

The question democracies face in the wake of these revolutionary changes in social thought is whether they shall continue to be democracies or move in the direction of totalitarianism. Just what kind of freedom and how much of it he wants, man, himself, has not determined. The totalitarian countries claim that in contrast to the democratic countries they have less strife and more harmony, less poverty and a better

distribution of the goods of life, less anarchy and more patriotism, less insecurity and more protection, less unemployment and more work. Faced with promises without limit, rituals of glamorous appeal, and uniforms to attract attention and create respect, the individual relinquishes his freedom for the lure of social good. And the educational system in these countries is maintained with only one end in view—that of promoting the prevailing nationalistic conceptions. Propaganda, therefore, is substituted for the processes of education, and the forces of intellectualism which have done so much in the past to preserve culture and to promote learning are doomed to despair and defeat. Academic freedom disappears and a doctrinaire nationalism takes its place.

In a democracy we face a different situation. If education is to serve the aspirations of a democratic people, it must remain free and untrammelled. It must not become the tool of any class or sect, or the proponent of any special doctrine or theory, or of any particular ideology or faith. It must be free to study any and every question relating to human welfare, and to give its findings without restriction. It will encourage individual research on the one hand and evaluate social movements on the other, but it will not discard its essential habiliments for the garb of some particular form of statism. Whether those who propose faith in democratic institutions can preserve the liberty of education is the supreme test of the times.

EDUCATION IN A DEMOCRACY

In meeting this challenge it is important to remember that the schools of democracy are not forums for the spread of doctrine and that the classrooms are not arenas for the promotion of any particular social theories. Many unthinking persons regard the activity of a college or university as an index of its worth. It is necessary to repeat again and again, unpopular though it may be to say so, that activity is not a substitute for reflection, nor for intellectual achievement. In the face of demands to "do things," it is a difficult task to preserve and promote the intellectual life of our colleges and universities, but it involves a responsibility upon which the preservation of democracy rests.

There is a wide difference between many of the activities, whose social value I do not question, and an attempt to understand and interpret contemporary culture. Colleges and universities cannot live wholly in the past, nor should they. They must keep their faces to the future. But the past should not be discarded. The past has its lessons to teach and these must be understood if we are to understand and interpret the present. However, colleges and universities must not focus so intently on the present, with its conflicting social theories, that graduates are sent into the world as crusading disciples of some momentarily impelling cause.

There should be a ferment in every university—not political, not social, not religious—but a ferment arising from an inner urge to learn, to interpret, to discover new knowledge. The unrest in a university should be the unrest of scholarship concerned with achievement, with mastery, with understanding, and with wisdom.

REGIMENTATION VS. EXPRESSIONISM

There are those who maintain that education is life and that it must be rooted in the interests of the student. They argue that there must be no interference with the spontaneous growth of the individual. They would have the pupil discover his own needs, and then have the school give him what he wants. In this type of school the teacher is a friendly adviser with little or no responsibility for the selection, organization, or presentation of the materials of learning. There are no fixed curricula, no examinations, no standards except those which the pupil himself determines. There is no authority or discipline except that which the pupil himself practices. This school is concerned with immediate values and not with ultimate values. Reason and mind, cause and result, judgment and perspective, historical knowledge and scientific background are dethroned in favor of the passing show and the near at hand.

There is much loose thinking, so it seems to me, about freedom in general and also about freedom in education. Certainly we in the United States are not prepared to accept the philosophy of totalitarian states that a fixed pattern of procedure which ignores the individual in the interests of the state should be adopted. Nor do I believe we are willing to accept the philosophy which declares that education should be based only upon the "current needs" of youth. While each of these philosophies has at least a superficial appeal, both should be discarded, and pretty much for the same reason. Freedom does not exist in general, or in the abstract. It is a matter of growth within the individual and represents a conquest over instincts, inheritances, and maladjustments of all kinds. The ability to exercise freedom comes with maturity and experience and learning. Freedom is relative to circumstances and conditions; it does not exist in the absolute or in a vacuum. Freedom must be earned, and the price is self-discipline.

Man's struggle for personal freedom, freedom of movement, freedom of thought and expression, freedom of worship, justice, tolerance, and equality of opportunity has been painfully slow and is not yet ended. But in emerging successfully from the struggle, man did so by learning that he must accept certain limitations in his freedom, by recognizing his responsibility and duty to others. It was only as man learned the moral consequences of his actions that he became free.

FREEDOM AND THE LIBERAL MIND

In education, as elsewhere, freedom is not a right but a privilege to be earned. The real meaning of freedom will be lost for youth if they are not taught or do not learn the importance of social and personal obligations. Desire for expression must be tempered by a recognition of duty and responsibility. Human lives are enriched and freed only as they share in the larger social values of the world about them. Education will make its largest contribution to a free society only when there is a proper recognition of responsibility.

A liberal education is not a matter of studying certain subjects; it may flow from any subject. It implies something more than a knowledge of the social sciences, of art, of literature, and of mathematics. Indeed, one may graduate from a liberal arts college without having been liberalized at all. The most important by-product of every subject of study

should be a liberal mind. And what do we mean by a liberal mind? We mean a mind that has broad interests, wide knowledge, cultivated tastes, appreciation, and sound perspective. We mean a mind that is open and tolerant, ready and willing to face new situations and to interpret them in terms of knowledge as it relates to social welfare. We mean a mind that includes a standard of ethics and a keen sense of responsibility. The education I am describing—and the type of mind that is its choicest by-product—cannot thrive where there is regimentation or where students in the name of self-expression determine the programs and processes of instruction. The essence of democracy is an enlightened “give and take.” This, likewise, is the essence of a liberal education. Totalitarianism and untutored self-expression are accordingly incompatible with both sound democracy and sound education.

INTEGRITY OF DEMOCRACY

How much thought, I wonder, in these days of rapid change and of social revolution, is given to the enhancement and preservation of the fundamentals of civilization?

It seems to me that we have somehow forgotten that civilization is artificial. It may be good but it must be acquired. We can lose it, I suspect, more easily than we can gain it. I have seen civilization change; indeed, the civilization of my boyhood days and, to a large extent, the civilization of the generations that preceded me, is gone. Its guarantees of a stable society no longer prevail. Its agreements for the preservation of peace and concord among nations have been suspended. The conceptions of individual liberty and of private property that prevailed in my youth are being given new interpretations. The heroes of yesterday have been deflated and the “mass man” has been created to take their places. Respect for law, which was and must be the great *fundamentum* of democracy, is attacked in new ways. Propaganda is the new instrument of popular education, and vaster sums are spent upon it than upon the established schools of the dictator countries.

I wonder sometimes, too, if we shall be able to preserve the form and substance of democracy. Whether the integrity of democracy can be preserved will depend upon many forces and conditions that lie outside of university circles. One thing, however, is certain: It cannot be preserved if there is infringement of the liberties of our universities. And universities must remember this truth themselves. To the extent that they become special pleaders they cease to be the servants of democracy. Both the public and the universities must be diligent and alert in their efforts to preserve the right to learn, to pursue knowledge, and to disseminate it. They must be equally diligent and alert to prevent the universities from becoming sounding boards of propaganda. Otherwise democracy is doomed.

BRANCH COLLEGE MOVEMENT

I wish now to turn to a more immediate problem, but one related to all that I have said thus far. Many bills affecting the University were introduced into the 1937 sessions of the legislature. Several of them proposed the establishment of branch universities. One of them envisaged

an organization for Duluth that would include a three-year arts and science college, a school of education, and perhaps a school of commerce, and a school of music and forensics. It also provided that the other teachers colleges of the state might be incorporated as branches of the University. Another bill called for appropriations for the establishment of a branch junior college in association with the School of Agriculture at Crookston. And there were movements looking toward the establishment of a branch of the School of Mines and Metallurgy at Hibbing and a branch of the Division of Forestry somewhere on the range.

All of these proposals represented a movement to decentralize the University. They arose partly out of the desire to make education more universal and more easily accessible and partly to provide a form of employment for unemployed youth near home. Local interests and local pride may, of course, have had something to do with the effort to establish new schools at state expense. It is fortunate both for the University and for the state that none of these bills was enacted.

Because interest in the branch university movement has been widespread and its objective is still believed by many to be desirable, and because the dismemberment of the University would be fraught with serious consequences, it is important that the subject receive more than casual consideration. It must be remembered that it takes a long time to develop a university to a high point of efficiency and service. It must also be remembered that a university is more than a few teachers, a few books, a few students and classrooms. A university in a true sense can exist only when an atmosphere of scholarship has been created within which teaching, research, and the development of the individual in the broadest sense are furthered. These desirable ends are achieved best when staff and facilities are focused at a single point. Experience throughout the country has shown again and again the truth of this statement.

THE WISDOM OF 1858

Agitation to decentralize the University is not new. It dates back to the very beginnings of the institution and was, in fact, the subject of extended discussion during the constitutional convention of 1858. In those early debates out of which the constitution grew, only two topics pertaining to the University stand out. Foremost of these was whether the University should be one concentrated university, or whether the funds from the land grants should be broken up to provide several institutions scattered throughout various sections of the state. The opinion of the framers of the constitution was unmistakable. There should be one institution, with its resources and its efforts concentrated at the Falls of St. Anthony. Every danger that has developed in other states following the decentralization of higher education was foreseen. All of the possibilities for friction, local rivalry, and dissipating competition were stressed.

The pioneers who were responsible for the establishment of the University of Minnesota were aware of the importance of keeping it intact and of the inefficiency that would result if it were divided. On August 14, 1858, when the convention delegates were gathered in the hall of the House of Representatives in St. Paul, certain matters relating to "The

University Fund" were under consideration. The most important question relating to the University debated in that convention was: Shall there be one central institution or shall there be several scattered institutions?

Mr. Balcombe of Winona, the president of the convention, summarized the point in the course of an extended statement:

Now I say that I am in favor . . . of locating the University permanently; and I am in favor further of making the fund indivisible. If it is left to be divided up, every little town will be trying to lobby a bill through the Legislature, to get hold of a portion of it, and to establish some little institution in each place.

The argument proceeded, sometimes centering on details of phraseology, sometimes wandering afield. But over and over again there was reversion to the essential, fundamental point. David Secombe, of St. Anthony, spoke and what he said (eighty years ago) might with equal pertinence and force be said today:

Now what is the object of a State University? The very term itself shows what it is. It is to encircle about one point, all the wisdom and all the intelligence that may be within the province of the State to encircle, and to send out and diffuse education throughout the whole State . . . I ask the gentlemen of this Convention to locate that University permanently either where the Legislature seven years ago saw fit to locate it, or at some other place, and provide that it shall remain permanent. I ask, then, at the same time that it shall not be scattered abroad and destroyed.

There were dissenting opinions, but of these the major one was based on the assumption that the funds were so great that they would amply provide for more than one institution, even of the caliber that was desired by all the delegates. Time has shown the falsity of that position. All that remains of the argument of its proponent is the doctrine that in spending money for the University, it should be distributed with the local interest of communities in mind.

For three quarters of a century Minnesota has supported a single, central university, and today this state is everywhere regarded as possessing a university organization that is enviable. On the contrary, in those states where the opposite policy was adopted, there has been increasing and unending trouble, sometimes of a minor nature, at other times rising to a point that threatens to disrupt an entire state educational system.

The principle that should govern the organization of higher education was well expressed in those Minnesota constitutional debates. The Regents of the University have ever since held fast to the doctrine of a single higher institution.

The people of Minnesota have struggled for too many years and have made too many sacrifices to build and maintain a university of the first rank to have it broken asunder and scattered indiscriminately over the state without knowing what the consequences of the proposed changes would be.

COSTS OF DISMEMBERMENT

The establishment of branch units of the University would be, in effect, special subsidies to local institutions. The question to be asked is why one center of population should be aided by the creation of branch units of the University and not others. And if branch units were to be

established, should not their location first be considered on a state-wide basis before making an allocation to any single community? On this point the experience in many states is clear: The establishment of an institution at one center leads to the demand for corresponding services at other centers. The process of dismemberment would inevitably spread. There would be two undesirable consequences. In the first place, dismemberment would in the long run, and probably soon, increase the amount of money that the state would have to appropriate in order to support the several branch units. There would be an inescapable amount of duplication that would have to be tolerated if the educational opportunities at all of the branches were to be maintained at a high standard. There would be duplicate laboratory facilities for students preparing themselves in the basic sciences. There would have to be duplication of books and periodicals in the several libraries. The overhead would inevitably increase. Instead of spending one of the smallest sums in the country for administration, in comparison to size, the University would be forced to spend larger sums. This is the history everywhere.

In the second place, as branch units or separate state institutions develop with the passage of time, they assume functions that extend far beyond the original intention. One needs only to turn toward our neighboring state of North Dakota to learn the truth of this statement. An extended report on higher education issued by the North Dakota Tax Survey Commission called this to attention as an important factor underlying the educational difficulties being experienced there: "The tendency has been for the specialized schools to acquire ambitions to train for a multitude of callings, especially the professions, rather than sticking to the specific jobs assigned to them."¹ And it adds as the next general point: "Some of the institutions of higher learning apparently have been unduly influenced in their curricular offerings by their *immediate localities*. As a consequence some of them have become, to a marked extent, *local* in place of *state*, and regional institutions." It is these local ambitions that have led to competition "that is decidedly unwholesome, and wasteful from the point of view of educational efficiency" in our neighboring state. The experience there is typical. Why should the state of Minnesota enter upon an educational program that has led to difficulties in other states, and inaugurate a trend from which other states, after careful study of their problems, are seeking to escape?

If there are any good reasons for a more extensive program of state aid for higher education we need far more knowledge than we now have concerning existing local institutions, the wealth of the population, the distribution of students, means of transportation, and the like, as well as of the costs of maintaining such units, before new ones are established.

ADVANTAGES OF CENTRALIZATION

One of the arguments advanced for the decentralization of the University is that students are too young to go away from home and that they should therefore study in their own communities. An answer to this argument is that the college freshmen of today are older than they ever

¹ *Report of the North Dakota Tax Survey Commission to the Governor and Legislature on Higher Education*. Report No. 2, 1936.

were before. Furthermore, it must not be forgotten that there are distinct educational gains in a change of scene and opportunity. One advantage of a central state university is in providing broadening interaction, not only with other students but in the various supplementary educational programs that every university must carry on outside of the classroom.

Closely allied to the preceding argument is the contention that smaller schools provide close personal relations, out of which come better understanding of the student and his problems, and a greater opportunity to advise and guide him. The fact is that while the aggregate population of the University may be large, the individual student is a member of a single college within the University and, for the most part, his friendships and his activities are within that college. Within his college or within the department of his major study, the student does have contact with the members of the staff. It must be kept in mind, too, that the University has developed to a high point facilities for knowing its students. There are the Students' Health Service, the Testing Bureau, the Student Personnel Co-ordination Service, the Faculty Advisory System, the Students' Work Committee (composed of faculty members), and numerous other agencies, all of which work with and for the student if he will co-operate with them. These agencies combine to make the University almost unique among the institutions of the country with respect to the knowledge it has of the students and the assistance it can give them. Guidance is no longer a matter of kindly intentions, a cheery word, and a pat on the back; it must be based upon carefully gathered facts concerning each student: his health, his interests, his abilities for a given course of work or study, his habits, his general attitudes. Only as the whole student is known and understood can guidance be given on a sound basis. The intellectual and spiritual welfare of boys and girls, young men and women, is so supremely important and so intertwined with the future welfare of the state, that the best knowledge and the best advice are none too good. It is because the University is large and diversified and does have on its staff men who are expert in many fields that touch human problems, that it can provide the facilities for a superior service. It would not be possible to provide this service on an equally adequate basis in a branch unit.

THE ECONOMIC ARGUMENT

Another argument frequently advanced is that the establishment of a local junior college or a branch of the University offering a more extended program of study, would keep students at home and thus keep money in the community. This is the argument that confuses educational considerations with economic considerations. It is by no means clear that the economic argument is sound. Some individuals in a given community might profit by the establishment of local educational institutions, but if these spread and multiplied, as they have a tendency to do, the ultimate result would be an aggregate increase in the educational expenses of the state which taxpayers at large would have to bear. For the economic advantage of a limited number of citizens in given communities, the people of the state as a whole would have to assume new burdens.

A state's educational program could be brought to the verge of bankruptcy by carrying the logic of this argument to its full conclusion.

The trend, everywhere, is in the direction of greater unification, co-ordination, and centralization because experience has shown definitely that highly organized, co-ordinated, and centralized universities are conducive to the best educational results and are also less expensive to maintain.

A SYSTEM OF STATE-WIDE SCHOLARSHIPS

It is also argued that local units of the University would permit students, who cannot otherwise afford to go away to school, to continue their education. This point is not without validity. However, it must be considered not with respect to one section alone. What of the children in the other sections of the state? Is there evidence that the young people of one county are in greater need of local institutions of higher education than children elsewhere in Minnesota?

Even assuming that there are young men and women in one area who cannot afford to attend college, there is still the basic question of whether their needs would better be met by establishing a branch of the University or by a system of scholarships. In some of the states, state-supported scholarships which permit the holders to attend any approved institution of higher education within the state have proved to be highly successful. Our experience at the University of Minnesota in selecting and appointing the National Youth Administration students clearly bears upon this point. In 1937, 1,300 of them, from every county of the state, were given student work-relief. That they were carefully chosen, is indicated by studies which show that of all groups at the University, their record of academic accomplishment was best. If 1,300 students could be successfully chosen under the National Youth Administration program there is no reason to believe that they could not be chosen with equal success under a system of state scholarships. A recent publication of the United States Office of Education shows that the trend toward state scholarships of various types is increasing.² Such scholarships, moreover, permit the selection of students who give the greatest promise. As an alternative to the establishment of university branches, a system of state-wide scholarships, coupled with selection, should be considered.

It must also be borne in mind that not all of those who reach the age of eighteen and who have graduated from a high school should go to college. Perhaps the need of the local communities is not for additional college facilities as we know them, but for schools of a different type and with new kinds of programs. The Danish *Folkschule* comes to mind. Or perhaps vocational schools should be established. But obviously these points cannot be adequately evaluated without undertaking a state-wide study of the related problems in Minnesota. Such a study would be the beginning step.

PLACE OF THE JUNIOR COLLEGE

Much of the interest throughout the state in the matter of branch units undoubtedly has been stimulated by the nation-wide growth of the junior college. No educational program should be basically modified without first

² See Ella B. Ratcliffe, "State Scholarships Increase." *School Life*, 31:171 ff. 1936.

reaching some conclusions concerning the place the junior college would take. Would it be a part of the state-supported institutions of higher education, or would it eventually be integrated with the public schools of the local community? A recent compilation of junior college statistics³ shows that at the outset of 1937 there were 528 junior colleges in the country with an enrolment of approximately 130,000. The growth has been rapid, especially since the war. Between 1936 and 1937 the enrolments in the private junior colleges declined slightly, which was in marked contrast to the year before. There is little doubt that the junior college movement is a movement toward public education. What is more, in most places the junior colleges are established as a part of the public school system and not as a part of the university system. The prediction seems fully justified that the whole junior college movement is a transition movement and that in the course of time the work done by the junior colleges will become part of the curriculum of the high school. There is much to suggest that the movement to establish new and independent junior colleges reached a peak late in the 1920's. Before launching upon a system of state-supported junior colleges, either through the establishment of new schools or by taking steps that will lead to an appeal for state support of the local junior colleges, these trends should be carefully weighed. The implications are clear that any state should move slowly, if at all, in the direction of attaching a state-wide junior college program to its university program.

ADVANTAGES OF SIZE

A final argument requires comment. It is often said that the University of Minnesota is too big. Size in itself, however, is not an important factor. As already stated, size may make it possible to give unique service to the students both in the classroom and out of it. Size may make it possible to develop cultural programs that smaller units could not afford but which are of negligible expense at a big institution. Size may make it possible to have better libraries and a better staff and even a better administration. The essential question is not, How big is the University? but How competent is it? What one wants to know is, How adequate is the staff? How well developed are its facilities—laboratories, experimental equipment, periodical collections, reference books, and the like? How thorough is its instruction? What is the reputation of its staff? How does the institution rank in the eyes of the educational world? How successful are its graduates? These questions pertain both to the work with the undergraduates as well as in the graduate and research fields. Actually the two cannot be divorced. There is no doubt that undergraduate instruction gains immeasurably by proximity to research programs. The alert teacher is made more alert by contact with scholars who are making contributions to human knowledge. The term "intellectual atmosphere" is no mere figure of speech. It is something that one breathes in the presence of scholars, and it stimulates intellectual growth. Though the undergraduate may never enter the research laboratory, the fact that it is upon the campus reacts directly upon the quality of the instruction he receives. The best teaching is always

³ W. C. Eells, "Status of the Junior College in the United States, 1936-37." *School and Society*, 45:166-68. 1937.

found where there is a rich "intellectual atmosphere." On the other hand, the presence of large numbers of undergraduate students makes possible the facilities that are necessary for advanced and professional work. The scholar, whether in the graduate school or engaged purely in research, has much to gain by the fact that undergraduate instruction is not scattered about the state but is, for the most part, "under one roof." Nor is it true that a disproportionate amount of elementary and beginning work is in the hands of inexperienced young instructors and assistants, and that students get little instruction from the distinguished members of the staff.

A university "is known by its works." The reputation of the University of Minnesota was never higher than it is now. Without doubt there are some colleges with a hundred students that are too big. Yet an institution of 15,000 students can be distinguished and efficient if it has the staff and the facilities to carry on high-grade work. There is nothing that would jeopardize the standing and the efficiency of the University more quickly than its decentralization.

STRENGTH THROUGH CONCENTRATION

As stated before, the consensus of educational opinion in this country favors an integral, integrated institution with all of the undergraduate, graduate, and professional units located at one center. The trend, in fact, is in this direction and few if any voices are raised against it. In a number of states, largely for spurious reasons, higher education was broken into units and various colleges were located at different places. Almost without exception these states have faced insoluble problems that arise from this decentralization. The sorry plight resulting from the multiplication of institutions can be illustrated by the history of education in any one of a number of states. The report of the North Dakota Tax Commission might again be offered in evidence. Is there no warning in the "Final Word" of this document?

The unanimity of feeling that something must be done about the present situation in higher education in the state [North Dakota] should receive the thoughtful attention of all public-spirited citizens. It is hoped that the citizens of the state and their appointed leaders will lend their support to constructive proposals. It is to be hoped that the people and their elected representatives will see that with the present set-up they have a chaotic plan—a plan that is not only wasteful and expensive, but that is working at cross purposes, failing to provide what the people really need although they may not realize it, and precluding anything but mediocre advantages for the youth of the state.

North Dakota established nine institutions of higher education. This was an important factor in creating the situation faced by the people of that state in respect to education. Reversing the old adage it may be said that in a state-supported system of education, in numbers of institutions there is weakness. The strength of the University of Minnesota cannot be divorced from the fact that all the resources of the University and the normal university program have been concentrated at one point; and likewise from the fact that it has not overdeveloped its teacher-training program to the extent that is found in many states.⁴

⁴The actual number of publicly supported institutions in North Dakota is the same as in Minnesota, although when weighted for size, wealth, population, and other factors, it is clear that the Minnesota organization is relatively centralized.

THE SCHOOLS OF AGRICULTURE

A proposal to establish junior colleges in connection with the schools of agriculture requires separate comment, for there are considerations in addition to those thus far introduced that pertain to these schools. Four years ago in connection with the request for the establishment of a junior college at the Northwest School of Agriculture at Crookston, certain points were made by the University which applied particularly to the Northwest School but which now have a wider significance. Attention was then called to the basic point, namely, that the Northwest School could not be a school of agriculture and a junior college simultaneously. The Northwest School is a special kind of vocational school, with a program developed to meet specific needs within the area it serves. It offers vocational training in agriculture and home economics; its faculty is chosen for their ability in teaching these subjects; its offerings in more general fields are more narrowly limited than would be true in a general college; its students at the time of graduation have had fewer months in school than graduates of accredited high schools.

To transform these schools into junior colleges, or to superimpose junior college work upon their present curricula, would necessitate the expansion of the work from the present six months to nine months each year. It would unquestionably call for new buildings, considerable additions to the staff, new libraries and book collections, new scientific equipment and laboratory facilities, and other things that would mean very considerable increases in capital and running expenditure. Two types of students would be side by side. The difficulties that this involves were clearly seen when for a brief period college students were housed in the dormitories of the Central School of Agriculture during an emergency period. The agricultural students and the junior college students would be together in the same buildings and in the same classrooms like the proverbial oil and water that will not mix. Nor should they mix, unless the people of this state are ready to say that the type of education offered by the agricultural schools should disappear. The objectives of the two types of educational programs are so different that one would eventually destroy the other, and there is no question as to which one would be destroyed. It can scarcely be questioned that the agricultural courses are now meeting a need for which a parallel in junior college education is not at the present time so clear. It is not without significance that the North Dakota survey of education points to these Minnesota schools of agriculture as examples of institutions that are performing a unique function. In this there is cause for thought before proceeding hastily upon programs that would lead to the destruction of the essential qualities and usefulness of the schools.

NEED FOR STATE-WIDE STUDY

The only sound position to take in considering the question of establishing branches of this University is to advocate a state-wide analysis of our Minnesota problems of youth and education. They must be made the subject of careful study. In no other way can intelligent progress be made in meeting the needs of young men and women and in developing the educational system to meet those needs. One cannot build blindly.

Before new institutions are established, or existing institutions are expanded, there should be an impartial survey of higher education in Minnesota. It should be conducted by authorities in education. It should be the work of men who are recognized leaders. They should work under the auspices of a state commission. The Legislature can create such a commission and should do so. With facts at hand the changes in state-supported higher education in Minnesota could be made intelligently and with the interest of the entire state in mind. No one can know fully what such a study would reveal, but it would be a foundation upon which the future could be built.

There is still vast wisdom in the admonition to see one's problem and to see it whole.

Embodying the suggestion that a study should be made of the problems of youth in Minnesota, a resolution was introduced into the 1937 sessions of the Legislature authorizing the creation of a commission charged with the responsibility of making an intensive educational survey and formulating a plan to meet the state-wide educational needs of the youth of the state. This resolution made but slight progress in its legislative course, but because the proposals contained in it are so important and because they are still valid, the resolution in full is printed here:

RESOLUTION

A joint resolution to create a commission to investigate the problem of youth in Minnesota in relation to education, and instructing said commission to formulate a plan designed to meet on a state-wide basis the educational needs of the youth of the state.

WHEREAS, There are no more important problems in Minnesota today than the problems confronting the youth of the state; and

WHEREAS, Because of the recent years of economic depression large numbers of youth have found it impossible to secure employment, or to enter upon courses of higher education that will train them for independence and self-support; and

WHEREAS, Changing social and economic conditions have greatly modified the needs of youth, both with respect to preparation for employment and education; and

WHEREAS, It is desirable that the untoward circumstances of the depression years shall be minimized as quickly as possible by the provision of adequate training of youth to the end that they may promptly find for themselves places in industry, agriculture, and the professions, and be thoroughly trained to assume those places; and

WHEREAS, The youth problems of Minnesota are not sectional but involve the entire state and must rest in their solution upon facts and analyses covering the entire state;

Therefore, Be It Resolved, By the Legislature of the State of Minnesota that there shall be created a Commission for the Formulation of a State-wide Plan for the Education and Training of Youth, hereafter referred to as the Commission, to consist of five members appointed by the Senate, five members appointed by the House, together with the State Commissioner of Education, the President of the State University, the President of the State Teachers College Board, the President of the Association of Minnesota Colleges, and the President of the Minnesota Education Association.

Be It Further Resolved, That the said Commission is directed to carry on such studies and investigations as it shall deem proper pertaining to the educational needs of the youth of Minnesota. It is authorized to investigate such topics as the number of youth in Minnesota between the ages of 16 and 25 and their distribution within the state; their economic background, their educational history and accomplishment; their vocational and professional interests; their present training and qualifications; and their vocational and professional opportunities here or elsewhere. The said

Commission is further directed to study the existing distribution of higher educational institutions in the State of Minnesota, public and private, and to consider the functions they perform together with the relation between their programs and the occupational and professional trends within the State. The said Commission is directed to consider the adequacy with which the needs of the youth of the state, as found through its studies, are met by existing educational facilities and to frame suggestions for meeting those needs with greater adequacy. Finally, the said Commission is authorized to include in its program of study any other relevant matters that its wisdom and judgment may dictate, such as the general problem of state aid or effective units of administration, in order that it may have a thorough basis in fact for the formulation of a state-wide plan for the education and training of youth of Minnesota; and

Be It Further Resolved, That the said Commission shall prepare for and present to the Legislature, no later than February 1, 1939, its proposed plan for the education and training of the youth of the state, together with such recommendations as it wishes to make covering such matters as the reallocation of functions among the institutions, the establishment of new types of institutions and guidance agencies, the establishment of a system of state scholarships for deserving and promising students, and like matters; and

Be It Further Resolved, That for the purpose of this resolution said Commission is authorized to hold hearings, and to sit at such times and places as it may deem advisable; to require by subpoena or otherwise the attendance of such witnesses and the production of such books, papers and documents as it deems advisable; to administer oaths and take testimony and to make expenditures not exceeding the amount hereinafter specified; to employ counsel if it deem such employment necessary, stenographic assistance to report the testimony taken at the hearings to be held by the Commission, and such other assistance as it deems advisable.

Every person who, having been summoned as a witness by authority of said Commission, shall refuse or neglect, without lawful excuse, to attend pursuant to such summons, or who, having appeared, wilfully refuses to be sworn or to produce, upon reasonable notice, any material and proper books, papers or documents in his possession or under his control, shall be liable to the penalties prescribed by Sections 38 and 10003, *Mason's Minnesota Statutes 1927*.

Be It Further Resolved, That the Commission be, and it hereby is authorized to spend a sum not to exceed Fifteen Thousand Dollars (\$15,000.00) or so much thereof as may be necessary to carry on the work contemplated by this resolution.

The purposes which it was hoped this resolution would achieve still press for attention. The essential task for which the resolution sought to make provision still remains to be done.

EVENTS OF THE BIENNIUM OF SPECIAL INTEREST

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ACTING PRESIDENT

Early in July, 1937, President L. D. Coffman suffered from an illness that made it essential for him to take a prolonged rest so that he might fully regain his health. The Board of Regents granted him leave of absence for the academic year 1937-38, and named Dean Guy Stanton Ford of the Graduate School as acting president. In 1931-32, when Dr. Coffman went on an extended trip to Australia and New Zealand as a representative of the Carnegie Corporation of New York, Dean Ford occupied the president's chair, but for a briefer period. The fact that Dean Ford was willing to take over the onerous responsibilities of the president's office on both of these occasions, and especially during the past year, gave great satisfaction to the staff and engendered a confidence that was essential to the continued development and progress of the University.

It was a busy and significant year for the acting president. Not only were there the added duties on the campus; there were also duties and responsibilities as president of the American Historical Association, to which office he had been elected a few months before. During the Christmas holidays, Dean Ford delivered his presidential address before the association in Philadelphia.

The academic year 1937-38 also marked the completion of twenty-five years of service at the University for Dean Ford. In recognition of this quarter century as dean of the Graduate School, the social science faculties planned a dinner in his honor which was attended by members of the social science staff. There were tributes to Dean Ford's leadership in the social science field, to his administration of the Graduate School, to his service to the Minnesota Historical Society, to his part in the development of postgraduate medical education, and to the devotion he has given to the University of Minnesota Press. Advantage of this gathering of friends and colleagues was also taken to present Dean Ford with the first copy of *On and Off the Campus*, a selected collection of addresses, educational articles, editorials, and scholarly papers drawn from Dean Ford's own writings and published by the University of Minnesota Press as a tribute to him.

There is ample evidence of the gratitude Dean Ford's services as acting president evoked at the University. The Administrative Committee, which meets each week with the president, took this action at its meeting on June 22, 1938:

Voted, that the Administrative Committee of the University Senate express by their vote their appreciation of the sympathy with the problems of the University administration and the skill in solving them which Dean Ford has shown as Acting President of the University during the academic year 1937-38.

The Board of Regents, likewise, adopted a special resolution in appreciation of the leadership Dean Ford gave throughout the year. This reads:

Called to the helm of the ship when the Captain was suddenly stricken and disabled, Dean Guy Stanton Ford has steered it with unerring fidelity. Never has he let the University lose sight of the lofty ideals which have inspired him in his

own field of endeavor, and which he brought with him to the discharge of a difficult added responsibility thrust upon him at the beginning of this academic year.

As the year closes, the Board of Regents of the University of Minnesota acknowledges that Dean Ford has met that added responsibility to its entire satisfaction.

Be It Therefore Resolved, That a copy of this resolution be engrossed and presented to Dean Ford at the meeting of the Board of Regents on the thirteenth of June, nineteen hundred and thirty-eight.

On July 1, 1938, President Coffman returned to his desk.

ACADEMIC FREEDOM AND THE SCHAPER CASE

On September 13, 1917, the Board of Regents passed a resolution dismissing from the service of the University Professor William A. Schaper, chairman of the Department of Political Science. This resolution read as follows:

WHEREAS, The Minnesota Commission of Public Safety by letter addressed to the President of this Board, advised that it was claimed by informants of that Commission that W. A. Schaper is a rabid pro-German, and, on this day, at the request of the Board, Professor Schaper appeared before it and was interrogated concerning his loyalty to this Government, and,

WHEREAS, The statements made by him before this Board satisfy it that his attitude of mind whether due to conscientious considerations or otherwise and his expressed unwillingness to aid the United States in the present war render him unfit and unable rightly to discharge the duties of his position as Professor in the Department of Political Science of this University, and,

WHEREAS, This Board holds that the best interests of the University, the State, and the Nation require unqualified loyalty on the part of all teachers in the University, coupled with willingness, and ability by precept and example to further the national purpose of the present crisis,

Therefore, Be It Resolved That the relations existing between W. A. Schaper and this University be, and the same are, hereby terminated.

The case of Professor Schaper was reopened late in 1937 by a letter from Governor Elmer A. Benson to Regent Lewis E. Lohmann. At a meeting of the Board on January 28, 1938, the earlier action involving Professor Schaper was rescinded, Professor Schaper was reinstated to the faculty as professor emeritus, and the sum of \$5,000 was voted to him in reparation of his loss of salary during the academic year 1917-18. Desiring to express its hope that such cases might not arise again at the University of Minnesota or elsewhere, the Board incorporated in its action concerning Professor Schaper a statement indicating its belief in, and support of, academic freedom. The action of the Board was widely commended.

The action of the Board, as it appears in the minutes of the meeting of January 28, 1938, is as follows:

A RESOLUTION

The University of Minnesota was founded in the faith that men are ennobled by understanding; it is dedicated to the advancement of learning and the search for truth; it is devoted to the instruction of youth and the welfare of the state. These purposes, carved in stone upon the façade of its most stately building, embody the tradition of scholarship upon which rests the development of higher education

and the continuous progress of democratic society. It is this tradition that sustains the human mind and spirit when beset by human passions and prejudices. It is to this tradition that the Board of Regents of the University of Minnesota reaffirms its adherence. In so doing, it reiterates its acceptance of the corollary principles of academic freedom. The Board of Regents of the University of Minnesota bears witness to its faith by entering upon its records the following statements concerning academic freedom:

1. The University of Minnesota should not impose any limitation upon the teacher's freedom in the exposition of his own subject in the classroom or in addresses and publications.
2. No teacher may claim as his right the privilege of discussing in his classroom controversial topics that are not pertinent to the course of study that is being pursued.
3. The University of Minnesota should not place any restraint upon the teacher's freedom in the choice of subjects for research and investigation undertaken on his own initiative.
4. The University of Minnesota should recognize that the teacher in speaking or writing outside of the institution upon subjects beyond the scope of his own field of study is entitled to the same freedom and is subject to the same responsibilities as attach to all other citizens but in added measure.
5. It is clearly understood that the University of Minnesota assumes no responsibility for views expressed by members of its staff; and the faculty members themselves should, when necessary, make it clear that they are expressing only their personal opinions.
6. If the conduct of a teacher in his classroom or elsewhere should give rise to doubts concerning his fitness for his position, the question should in all cases be submitted first to a committee of the faculty, and in no case should any member of the teaching staff be dismissed before the normal termination of his period of appointment without full and open hearing before the Board of Regents, should he desire it, and only upon sufficient notice.

The Board of Regents sitting in 1938 recognizes with regret and not in a spirit of condemnation of its predecessors that periods of national crisis are characterized by widespread loss in social perspective and a strain upon the values that prevail when conditions are more nearly normal. It would also affirm in these calmer days and against another day of storm and stress that in times of crisis the need for adherence to accepted values and traditions and procedures, especially by institutions of higher education, is most necessary. It recognizes in retrospect that conditions in the fall of 1917 were such that seemingly fundamental differences in opinion were not quickly reconciled or adjusted. When America entered the war after nearly three years of neutrality and free discussion, those who had vigorously upheld the cause of the Central Powers were expected to reverse at once emotional and intellectual attitudes to which of right they had given free play. Those who had favored the Allies faced no such difficulty, often could not recognize its existence and added their impatience to increase the difficulties of those who sought at the same time to save their self-respect and prove their loyalty. It was such conditions with the consequent effects on all parties concerned that furnished in part the background for the action of the Board of Regents when on September 13, 1917 it passed a resolution dismissing Professor William A. Schaper from the University of Minnesota. This action of the Board was initiated by a letter from the Minnesota Commission for Public Safety, advising the president of the Board that it was claimed by informants

of that commission that Professor William A. Schaper was a rabid pro-German. There was a summary examination of him before the Board on that day. No record of the proceedings other than the above resolution was made.

Numerous efforts have been made in the past twenty years by members of the staff, former students of Professor Schaper, and alumni of this University to reopen the case. The matter, however, did not receive the attention of this Board until the letter of the Honorable Elmer A. Benson, Governor of this State, addressed to Regent Lewis E. Lohmann, was presented to this Board on December 17 last, requesting that the resolution of September 13, 1917 be rescinded, and that Professor Schaper be invited to return to the University.

This Board finds as follows:

Professor William A. Schaper was made full professor at the University of Minnesota in 1904, after having served three years as assistant professor. At the time of the adoption of said resolution, he was the head of the Department of Political Science and filled that position with distinction.

He was not furnished with a copy of the alleged information against him.

No charges were made against him that might have been considered by a faculty committee and, therefore, none were considered by such a committee.

None of the charges were specified except as above stated.

He was not confronted with his accusers.

He was not given sufficient time or opportunity to meet the charges nor to engage counsel for his defense.

He was dismissed on the eve of the commencement of the then academic year after being paid only one month's salary for that year.

This Board finds that the dismissal was without due process and, therefore, unjustified.

Therefore, Be It Resolved:

1. That the action of the Board in adopting the resolution of September 13, 1917, terminating the relations existing between Professor William A. Schaper and this University be, and it hereby is, in all things rescinded, and the said resolution be, and hereby is, in all things expunged from the minutes and records of this Board.

2. That Professor William A. Schaper be reinstated to the faculty of this University, with the rank of Professor of Political Science Emeritus.

3. That Professor William A. Schaper be paid, out of the funds of this University, the sum of \$5,000, in reparation of his loss of salary for the academic year 1917-18, and said sum is hereby appropriated for such purpose.

4. That a copy of this resolution be transmitted to Professor William A. Schaper by the Secretary of this Board.

On roll call the following voted in favor of the above resolution, Regent A. E. Olson being absent:

- | | |
|-------------------|-----------------------|
| 1. Regent DuBois | 5. Regent Murphy |
| 2. Regent Lawson | 6. Regent M. M. Olson |
| 3. Regent Leonard | 7. Regent Peterson |
| 4. Regent Lohmann | 8. Regent Pfaender |

Regent Snyder dissented and requested that the following explanation of his vote be included in the Regents' minutes:

I ask the privilege of explaining my vote and having the explanation put in the records. I am the only member present who was present at the meeting of the Board of Regents on September 13, 1917. The facts which were presented to the

Board at that time were not recorded and are not available to this Board.

A complaint was presented to the Board questioning the loyalty of Professor Schaper. He was summoned before the Board, was present and fully interrogated as to his loyalty to the constitution and the government. Having been heard by the eleven members present, the resolution dated that day was passed by unanimous vote and he was given notice of the result. Twenty years have passed during which time to the best of my knowledge Professor Schaper has never by himself or his authorized agent asked for any rehearing or reconsideration of the resolution passed on that date. Today a request comes from a friend of Professor Schaper's, without his request or sanction so far as our records disclose, to rescind the 1917 resolution, wipe it from the records, and pay him the sum of \$5,000. There is no new evidence submitted to support the passage of any such resolution. The effect of the passing of this resolution is in my judgment an unwarranted reflection upon the integrity, ability, and charity of the Board of 1917 without basing the act on any facts whatever now before the Board justifying the action.

There is another reason why I cannot vote for this resolution. Under the rules of this Board its actions are governed by accepted general parliamentary proceedings. The Board has never adopted any other rules for conducting its business. I am of the opinion that ROBERT'S RULES OF ORDER, commonly used as a textbook, is a good authority for guidance in parliamentary proceedings.

This resolution provides for rescinding and expunging a resolution passed twenty years ago. The rules laid down in ROBERT'S RULES OF ORDER with reference to motions to rescind are as follows:

"The motion to rescind can be applied to votes on all main motions, including questions of privilege and orders of the day that have been acted upon, and to votes on an appeal, with the following exceptions: votes cannot be rescinded after something has been done as a result of that vote that the assembly cannot undo; or where it is the nature of a contract and the other party is informed of the fact; or, where a resignation has been acted upon, or one has been elected to, or expelled from, membership or office, and was present or has been officially notified. In the case of expulsion, the only way to reverse the action afterwards is to restore the person to membership or office, which requires the same preliminary steps and vote as is required for an election."

In my opinion the resolution is entirely out of order and has no place upon the calendar of the day. For these reasons I must vote No. However, in doing so I sincerely regret that a more proper presentation of the matter was not made. If Professor Schaper had presented a request at this time for a rehearing, I would gladly have favored it, hoping that from the action taken at the rehearing would come a resolution based on new facts and which might be such as would justify me in voting for a resolution then offered with the endorsement of Professor Schaper's friends on this Board, who now by their votes have passed the resolution rescinding the resolution of September 13, 1917.

Fred B. Snyder

Recognizing that its action on academic freedom is also intimately related to the problem of academic tenure, the Board at the same meeting on January 28, voted to authorize the acting president to appoint a committee of the Board and the staff to consider tenure and other matters relating to the administrative and academic staffs of the University. This committee has been created and has begun its study of tenure problems.

ADMINISTRATION OF UNIVERSITY LANDS

On November 13, 1937, the Board of Regents voted to authorize its chairman to appoint a special committee of five to investigate and report upon the right and desirability of having the University itself administer the lands in the permanent university fund, hitherto for many years administered by other state agencies.

This special committee, consisting of Regents Lewis E. Lohmann (chairman), George B. Leonard, Frank W. Murphy, Albert Pfaender, and Ray J. Quinlivan, on April 20, 1938, unanimously recommended, following its study and review of the matter, that the Board of Regents assume responsibility for the administration of the university lands, and that these lands be transferred to the University as of July 1, 1938. The report of the special committee was adopted by the board.¹ Its essential portions are as follows:

Your committee has concerned itself with these phases of the problem:

1. The extent of the lands, mineral, agricultural, and forestry, now held in the permanent University fund.
2. History of title to these lands.
3. The desirability of the administration of these lands by the University itself.

As of December 15, 1937, thirteen mining leases had been issued on University lands, ten of which are still active. The actual ore reserve on University lands is estimated at 16,600,000 tons. Shipments are being made from only two University mines, namely, the Mesabi Chief Mine and the Kevin Mine. The ore on University lands is largely the low-grade ores. This University ore constitutes approximately 12% of the reserve tonnage of the ore listed for all state-owned lands. As of November 5, 1937 there was a total of approximately 14,000 acres of University lands unsold, which include the mineral land, but a major portion of which is non-mineral land. There was also acreage in excess of this sold under contract. The non-mineral land constitutes approximately 1% of the state-owned land.

Since the first federal grant of 72 sections of land was made for the use and support of a state university in 1857, a total of 74,868.16 acres has been received. In addition 94,439.28 acres of agricultural college lands were granted, all of which have been sold.

The situation relative to title may be described briefly in this way:

The charter of the University adopted by the Territorial Legislature, February 25, 1851 provided in Section 15:

the selection, management and control of all lands, which may hereafter be granted by Congress for the endowment of said University is hereby vested in the board of regents.

Article 8, Section 4, of the Constitution of Minnesota as adopted by the people in 1857 provides:

The location of the University of Minnesota as established by existing laws, is hereby confirmed, and said institution is hereby declared to be the University of the State of Minnesota. All the rights, immunities, franchises and endowments heretofore granted or conferred are hereby perpetuated into the said University, and all lands which may be granted hereinafter by Congress, or other donations for said University purposes shall vest in the institution referred to in this section.

After a considerable study of the history of the matter and the cases bearing hereon we find that the above two historical documents have fixed the title in those Congressional lands in the University in perpetuity.

This conclusion as to the title in Congressional lands is ably supported by the statements of the Honorable Henry H. Sibley of Mendota, a Regent of the University from 1851-1860 and 1869-1891, and who was also President of the Constitutional Convention, July and August, 1857, and a member of the committee that drafted, supported and secured the adoption of Article 8, Section 4, of the present Constitution quoted above.

Historically the case is briefly as follows:

The Regents actually controlled and leased and sold the original 72 sections of the land granted to the Territory for University purposes. In the course of their

¹ At the time this is written, following the close of the biennium, the transfer has not been made, pending an opinion from the attorney general as to the constitutionality of turning the lands over to the University Board of Regents.

operations the Territorial Regents incurred indebtedness. The Regents of the Territorial University as well as the State University continued to control and sell lands until as late as 1864 to satisfy the obligations incurred by the Territorial Regents. The Regents of the State University, presumably acting under the Regents' resolution of September 18, 1863, quoted below, apparently discontinued the sale of land in the latter half of the decade 1860-70, for we find in the 1871 Report of the Regents a statement of land sold by the State Auditor.

At the Regents' meeting of September 18, 1863, on motion of Regent Kimball it was resolved:

That the State Auditor as Ex-Officio Commissioner of the State Land office is hereby authorized to take charge of the University lands and of all buildings and grounds belonging to the University and to lease and collect rent for the same in accordance with the provisions of Chapter 62 of Session Laws of 1862 entitled an act to establish the State Land office and for other purposes, so far as the same may be applicable. He to pay all rent and other monies collected over to the Treasurer of the Board of Regents and report to the Board of Regents on or before the 1st day of December of each year.

According to the records of the State Auditor's office, the first sale of University lands was in 1867. The grants to the Territorial University as well as those to the University and the Agricultural College were on the basis of lands selected by the Governor of the State and approved by the Secretary of the Interior. The title runs, therefore, not from any federal patents but from an approved list of University lands. . . .

The above action was taken by the Regents at a time when the University was not in a satisfactory position to administer its own lands and did not have the facilities it now has for the study of these lands or the need that it now has for the use of these lands for research and educational purposes.

The mining properties are the most valuable of the lands belonging to the University. These properties, together with all other State lands, including the State mineral lands, are now administered by the Department of Conservation. State laws prescribe the manner in which mineral lands must be leased and also the exact wording of the lease that must be applied to all mineral lands. While this is undoubtedly an excellent type of lease for general application to a number of mining properties, your committee feels that the University has facilities for studying each of its properties in detail and for drawing leases for each of its individual properties that more accurately take into account the mining methods required, the nature and value of the ore that can be produced, and the profit that can be made by the lessee. Practically all of the ore on University lands is low-grade and will require beneficiation, the value of this ore being determined not so much by its iron content as by the complexity of the beneficiation method required. The present lease, as prescribed by law, does not take this factor into account, and it is believed that the University will be able to make leases for each of its individual properties that will be of materially greater financial advantage to the University than is to be expected under the blanket type of lease that the Conservation Department is now required to apply to all mineral lands, whatever their nature.

Your committee is of the opinion that the action of the Board delegating the administration of these lands should be rescinded and the responsibility, placed by the State Constitution upon the Regents for the administration of these lands, should be again accepted by the Regents. Your committee believes also that benefits will flow to the University from the acceptance of this responsibility. The lands, mineral and other, will furnish a field working laboratory for students in Mining, Geology, Forestry, Surveying and Agriculture. They also furnish an opportunity for research by members of the staff in such fields as low-grade iron ore, iron ore property management, forestry conservation and management, soils, farm management, plant pathology, and others. The presence on the staff of people skilled in these fields will also be of material assistance to the University in the management of the property.

Your committee recommends, therefore, that the Regents' action of September 18, 1863 be rescinded and that steps be taken immediately by the Regents to accept the responsibility for the administration of these lands placed upon it by the Constitution so that the administration of the lands will be transferred to the University as of July 1, 1938.

INVESTMENT POLICY

The Investment Committee of the Board of Regents (Fred B. Snyder, chairman, Frank W. Murphy, and Rufus R. Rand, Jr.) on September 29, 1936 made recommendations which were approved by the Board, as follows:

1. Trust funds, controlled by the Regents, should be invested, substantially, in bonds up to 80 per cent and the whole list of bonds now held, together with those bought hereafter should be arranged, (a) so that an increasing amount of money should become available yearly up to 1943; and (b) so that thereafter there should be an almost uniform turnover each year up to a maximum of thirty years.

2. The trust funds should be invested, substantially, up to (a) five per cent in preferred stocks; and (b) fifteen per cent in common stocks. The stock investments should be broadly diversified and should consist solely of listed stocks which have sustained a high standing in the financial world since 1932, and are currently paying dividends at a rate not less than a bond of comparable quality. Common stocks without either bonds or preferred stock underlying them should receive special consideration. Shares of well managed investment trusts and shares of highest grade insurance companies should have favorable consideration, but no investment in any form of stocks should be made without the written recommendation of the Investment Counsel, with a statement of his reasons.

It should be carefully noted that some of the trust funds are restricted to investment in certain classes of securities, unless by a specified vote of the members of the Board, an exception is made.

Your Committee also is of the opinion that the practice followed by many financial institutions of preparing, in advance of investment, a list of accredited bonds and stocks and the maximum amount of purchase allowed, should be followed as a guide for the prompt investment of funds, without the delay which so often attends the purchase of each separate investment, when and as made. The delay sometimes is the cause of missing a desirable purchase or sale. No such list should be prepared by the Investment Committee without first obtaining from the Investment Counsel a written report on each proposed investment with his recommendations.

When such a list is made up and presented to the Investment Committee by the Investment Counsel, a meeting of the Committee should be held and a report made by it to the Board for final action, as a basis for making investments without further reference to the Committee, but subject of course to final confirmation of each transaction by the Board.

In connection with this report it was also voted not to invest more than \$50,000 in any single preferred or common stock.

HONORARY DEGREES

The University of Minnesota has always bestowed its honorary degrees with great care. Prior to the June commencement in 1937 only nine honorary degrees had been awarded in all the years of the University's history. Three additional degrees were awarded in 1937, bringing the total to twelve. No honorary degrees were given in 1937-38. The three degrees of the biennium were conferred upon F. Melius Christiansen, director of music at St. Olaf College, Northfield; Frederick May Eliot, clergyman of Saint Paul; and Henry Johnson, educator, Columbia University, New York. The citations read by President L. D. Coffman, in conferring the degrees were as follows:

F. Melius Christiansen:

Inspiring leader of a distinguished and unique college musical organization, a loyal and devoted teacher whose influence has been vital in shaping the lives of

young people and awakening in them and in others far beyond the confines of any campus, an interest in choral singing and a love of all that is fine in music; composer and critic of merit and conductor honored in many lands; a citizen whose contributions to the culture of the northwest and the nation will endure as long as the human voice is raised in song; upon you, F. Melius Christiansen, the Regents of the University of Minnesota, on recommendation of the faculties, confer the degree of doctor of music, *honoris causa*, with all the rights and privileges pertaining to that degree, and inscribe your name upon the roll of the alumni of the University of Minnesota.

Frederick May Eliot:

Effective and high-minded champion of every forward looking movement in your community; a citizen whose ability, tolerance, and sympathetic understanding have gathered to you the friendship, loyalty, and esteem of your fellow citizens regardless of class, race, or creed; a trusted leader entering on new responsibilities in the church of your faith—because of your abiding contributions to the spiritual, cultural, and social life of the northwest, the Regents of the University of Minnesota, on recommendation of the faculties, confer upon you, Frederick May Eliot, the degree of doctor of laws, *honoris causa*, with all the rights and privileges belonging to that degree, and inscribe your name in perpetuity upon the roll of the alumni of the University of Minnesota.

Henry Johnson:

Master of the art of teaching, a scholar whose contributions to your chosen field of history merit the admiration and praise of all who know them, a man whose life has been devoted to the elevation of the standards of historical scholarship and instruction, a classroom leader whose power to make learning exciting is measured by the fact that you can evoke the liveliest of student interest and discussion in the first grade or the graduate seminar, pre-eminent as a teacher of teachers; because of your distinguished achievement in a career that began with graduation from this University, the Regents of the University of Minnesota, on recommendation of the faculties, confer upon you, Henry Johnson, the degree of doctor of laws, *honoris causa*, with all the rights and privileges pertaining to that degree.

CHANGES IN DEGREES

1. The Board of Regents on April 4, 1937 approved the following changes in Bachelor degrees in the School of Mines and Metallurgy:

- From Engineer of Mines (E.M.)
 - Engineer of Mines in Geology (E.M. (Geology))
 - Engineer of Mines in Petroleum (E.M. (Petroleum))
- to Bachelor of Mining Engineering (B.M.E.)
 - Bachelor of Mining Engineering in Geology (B.M.E. (Geology))
 - Bachelor of Petroleum Engineering (B.Pet.E.)
 - Bachelor of Metallurgical Engineering (B.Met.E.)

2. The Board of Regents on April 17, 1937 approved the awarding of a certificate of public health from the Medical School to physicians who satisfactorily complete the prescribed postgraduate course in Public Health covering three university quarters and not less than thirty-six credits.

3. The Board of Regents on June 14, 1937, voted on recommendation of the Executive Committee of the Graduate School to approve the proposal that the College of Education be permitted to grant the degree of master of physical education or the degree of master of education along the lines of the five-year program which is being worked out by the staff of the College of Education in connection with Physical Education.

4. The Board of Regents on September 25, 1937 approved the awarding of a certificate to graduates in the Division of Library Instruction upon the completion of a full year of professional education.

5. The Board of Regents on April 20, 1938 approved a change of degree of bachelor of mining engineering in geology to bachelor of geological engineering—B. Geol. E.

6. Upon recommendation of the faculty of the Law School the University Senate on May 19, 1938 approved the following:

The degree of Bachelor of Science in Law *with distinction* is awarded, on vote of the faculty, to students who have made a high average grade in their pre-legal and law school work. The degree of Bachelor of Science in Law *with high distinction* is awarded, on vote of the faculty, to students who, in addition, have demonstrated, on the Board of Editors of the *Minnesota Law Review* or otherwise, unusual ability in original work.

The degree of Bachelor of Laws *with distinction* is awarded, on vote of the faculty, to students who have made a high average grade in their course in the Law School. The degree of Bachelor of Laws *with high distinction* is awarded, on vote of the faculty, to students who, in addition, have demonstrated, on the Board of Editors of the *Minnesota Law Review* or otherwise, unusual ability in original work.

TRAINING FOR RECREATION LEADERS

In spite of the boom in recreation facilities in Minnesota in recent years, there is no institution in this region which provides the necessary leadership training. An experimental four-year curriculum to train recreation leaders is therefore to be included as a major and minor sequence in the College of Education beginning in the fall of 1939. It will help train persons for teaching and for recreation leadership work in schools and in city and county recreation set-ups.

The curriculum was approved as a result of the recommendation of a recreation committee appointed by President Coffman in December, 1936, and headed by Professor C. Gilbert Wrenn.

The committee found that the increase in leisure time, and hence the need of recreation leaders to show people how to use that time effectively, is evidenced today by the fact that:

1. Hours of labor have diminished.
2. Modern labor tends toward specialization.
3. Educators, social workers, and parents now recognize the role recreation plays in developing character in youth.
4. Organizations, trade unions, and co-operative associations recognize the need for recreation leadership.
5. Many adults have been stimulated to use their leisure time to develop skills and arts in the spirit of amateurs.
6. The Federal Government has provided much money in recent years for the development of recreation facilities.

Included among the committee's projects was a conference of recreation leaders from government agencies and from twenty-five universities held in the Center for Continuation Study last December. Enthusiastically endorsed by President Roosevelt, a second national conference of recreation leaders is to be held here during the coming year.

PHYSICAL EDUCATION RESEARCH

A unique physiological study for the twofold purpose of improving the effectiveness of the physical education program of the University and of conducting research into the effects of athletics upon the human body

is being undertaken as a joint project between the Department of Physical Education for Men and the Medical School. The research, which began in 1937-38, is under the direction of Dr. Ancel Keys, formerly of the Mayo Foundation.

Specifically the project involves both teaching and research. Dr. Keys will teach human physiology and anatomy courses to men and women students in physical education. He will also direct a series of experiments designed to test normal individuals, such as members of the athletic squads and other students, to determine the effects upon them of exercise and other physical activities. The study of individual differences, such as those which make one man a better runner or jumper than another, rather than the development of better athletes is the real purpose of the investigation.

The investigators will be major students in physical education and they will be trained by Dr. Keys and Athletic Director Frank G. McCormick. Since increasing emphasis in various parts of the world is now placed upon this phase of physiology, it is planned to develop at Minnesota a center for such studies of normal human beings.

Of particular interest are the long range aspects of the project. Graduating seniors will be studied over a period of time following graduation to learn what disease or defects appear in later life, and if possible, to learn if there is any relationship between these and strenuous physical exertion.

The Harvard Fatigue Laboratory is the only center in this country where a project comparable to the Minnesota one is being carried on. Similar work is also being done in Copenhagen, Denmark, under the direction of the League of Nations.

INSTRUCTIONAL STAFF—CENTER FOR CONTINUATION STUDY

The Board of Regents on October 9, 1937, approved the following provisions for the instructional staff for the Center for Continuation Study:

1. Members of the University staff on full-time appointment shall not receive compensation for incidental instruction given by them at the Center for Continuation Study during the period of their appointment.
2. Members of the University staff serving on a part-time appointment, or serving on appointments that are without salary, may be compensated at the rate of five dollars per classroom hour of instruction, with the maximum earnings not to exceed ten dollars in any one day, or fifty dollars in any one week. This same rate of compensation shall in general apply to individuals who give instruction at the Center for Continuation Study but who are not on a regular appointment at the University.

BOARD ACTIONS AFFECTING STAFF WELFARE

Group Hospitalization Service, page 37

Classified Service for the Nonacademic Staff, page 41

**Medical Examinations of Candidates for Nonacademic
Positions, page 50**

GROUP HOSPITALIZATION SERVICE

The following communication from the acting president to all faculty members and other employees of the University announced the inauguration of a service designed to give additional protection to the members of the staff by providing hospital care during periods of illness:

It is with great pleasure that I announce to you that the Regents of the University of Minnesota at their meeting on April 20, 1938 authorized a plan of group hospitalization for faculty and employees of the University.

The plan was devised by a committee of the staff and will be administered by the Comptroller with the aid and counsel of an advisory committee representing faculty and employees.

The Regents are hopeful that the plan will be of real assistance to the faculty and employees in meeting some of the unusual and emergency expenses involved in illness. While it is not possible to predict when an individual will be ill or what hospitalization expense he will incur, there is information available which indicates rather definitely the amount of hospital care necessary for a large group of people. This plan, therefore, by spreading the risk among a large number of individuals permits each individual to anticipate a large share at least of the hospital expenses which he will incur when illness comes. The plan also provides that any member may partially protect the dependent members of his immediate family.

Membership in the plan is voluntary but it is the hope of the Regents that the value of the plan will be recognized. The plan will become effective September 16, 1938 provided a sufficient number of faculty and employees indicate a desire for membership.

The staff response to the hospitalization plan was immediate and the number necessary to assure its establishment was quickly obtained.

The basic points in the plan adopted by the Board of Regents are these:

1. Membership, which is voluntary, entitles the staff member to 24 days of hospital care in any one year (expenses not to exceed \$3.50 per day), operating room expenses including anesthesia, general nurse's service, surgical dressings and drugs, and certain other allowances.
2. The individual may enter any hospital of his choice in the United States or Canada, provided it is listed in the Physicians Record Company's published list of hospitals, which includes all hospitals approved by the American Hospital Association, the Protestant Hospital Association, the Catholic Hospital Association, and the Canadian Hospital Association. This freedom of choice makes the University's plan especially adaptable to the needs of college professors, many of whom, during the summer vacation period, do not remain at the University, but travel throughout the country.
3. There are no restrictions on the choice of any licensed physician to attend the individual during his hospitalization.
4. If the staff member selects hospital accommodations that cost more than the allowed \$3.50 per day, he must meet the additional cost himself.
5. The plan does not cover outpatient service not requiring hospital admission, the professional services of the physician or surgeon, special nurses, hospitalization for mental diseases or tuberculosis, and other specified diseases and injuries enumerated in the individual's contract.

6. The hospitalization service includes maternity cases, but only after the individual's contract has been in force for ten months.

7. For the payment of an additional amount, wives, minor children, or dependent husbands may receive one-half the benefits available to the staff member, with specified exceptions.

8. The cost for the staff member is 66 cents a month (\$7.92 a year); or, if dependents are included, \$1 a month (\$12 a year).

9. Payments are by semimonthly payroll deductions for employees on the regular payroll, and by semiannual cash payments in advance for individuals on the miscellaneous payroll.

10. Faculty members and employees on the regular payroll become eligible for membership upon appointment to a position that calls for six months' full-time continuous service, or its equivalent, during the fiscal year. Individuals on the miscellaneous payroll become eligible upon completion of six months' full-time continuous service or upon completion of the equivalent during the twelve months immediately preceding application.

11. There are no health requirements for membership, except that no hospital service will be given for the treatment of conditions known to exist and requiring hospital service on the date of application.

12. Applications by staff members must be filed and accepted prior to August 31 of any year to secure benefits from September 16 of any year.

13. Membership may not be canceled within the period for which it was originally taken out, but may be dropped at the expiration of any period. Membership ceases upon retirement from the faculty.

To serve as an initial guaranty fund or reserve for the plan at the outset, the University Committee on Salary Contributions requested the Regents to allot \$5,000 to the project from the funds under the committee's control, with the understanding that the money will be replaced once the hospitalization plan has accumulated a reserve of its own.

The hospitalization service plan for the University was developed by a special committee appointed by President L. D. Coffman on which the various branches of university service were represented. Once in operation, this committee will serve in an advisory capacity to the comptroller, who is charged with the responsibility of administering the plan.

The full terms and conditions, as given in the contract signed by the staff members, are as follows:

This contract is executed by the Regents of the University of Minnesota.

1. Employees of the University of Minnesota are eligible to membership in the Group Hospitalization Service as follows:

- a. Employees on the regular payroll become eligible for membership upon appointment to a position which calls for not less than six months' full-time continuous service, or its equivalent during a fiscal year.
- b. Employees on the miscellaneous payroll become eligible for membership upon completion of six months' full-time continuous service or upon completion of equivalent time during the twelve months immediately preceding application.
- c. Employees who do not make application within thirty (30) days after becoming eligible may not become members until the following September 16.
- d. Hospital service, as defined below, shall become available on the sixteenth day of the next month after acceptance of application, except in the event of an accident when all benefits of this contract shall be available from the

date of acceptance of application. This provision is waived in case of renewal.

- e. The payment of membership dues will be made as follows:
- (1) Employees on the regular payroll on any September 16 by semi-monthly payroll deduction;
 - (2) Employees on the regular payroll entering the service after any September 16 by cash payment with application to the following September 15;
 - (3) Employees on the miscellaneous payroll on any September 16 by cash payment with application to the following March 16 and balance to the following September 15 on or before March 16;
 - (4) Employees on the miscellaneous payroll entering the service after September 16 and before March 16 by cash payment with application to March 16 and balance to the following September 15 on or before March 16; or if entering between March 16 and September 15 by cash payment with application to September 16 and balance to the following March 16 on or before September 15.

2. The member may select any hospital included in the Physicians Record Company's published list of American and Canadian hospitals; however, such service is subject to the rules and regulations of the hospital selected by the member, and includes only the care of illness and injury accepted for treatment by such hospital.

3. The term "Hospital Service," as used herein, is defined to mean receiving a member into a selected hospital (upon recommendation of a physician or surgeon, as provided in Section 7 below), and furnishing to the member, as needed, for not to exceed twenty-four days in any one year:

- a. Board and room not to exceed in cost \$3.50 per day;
- b. General nursing service;
- c. Operating room service including anesthesia when administered by a salaried employee of the hospital;
- d. All drugs and an eight-dollar allowance for serums, intravenous solutions and liver extracts;
- e. All surgical dressings;
- f. Laboratory service (limit \$8.00) and the Regents will pay to the receiving hospital twenty-five per cent of its regular charges for all additional laboratory service;
- g. X-ray service for injuries due to accidents to an amount not to exceed fifteen dollars;
- h. Electrocardiograms, basal metabolism studies, and X-ray studies—twenty-five per cent of regular charges;
- i. Special services, such as oxygen therapy, carbon dioxide and oxygen therapy, diathermy, ultra violet and radiant heat treatments and inhalations to an amount not to exceed twenty-five dollars.

All services above described will be furnished only to members hospitalized as bed patients except in case of accident. The term "Hospital Service" shall not include:

- a. Out-patient service, which is defined to mean service rendered to anyone who is not regularly admitted to a hospital as a bed patient, except in case of an accident when all services as provided under the terms of this contract will be available to the subscriber;
- b. Professional services of physician and surgeon, except services rendered in assisting the subscriber's attending physician by the medical house officers

or the interne and resident staff of the participating hospital to which the subscriber is admitted;

- c. The cost of special nurse or of special nurse's board;
- d. Hospitalization for treatment of the following:
 - (1) Psychoses (mental diseases), (except for diagnosis);
 - (2) Pulmonary tuberculosis, (except for diagnosis);
 - (3) Diseases which cannot be admitted to a general hospital under laws, ordinances or regulations of public health authorities applicable to the furnishing hospital to which the subscriber applies for admission;
 - (4) Injuries or diseases for which hospital service is available without cost to the subscriber under the laws enacted by the legislature of any state or of the Congress of the United States.

4. The term "dependent" as used herein shall mean wife, child under 21 years of age, or dependent husband of the member. Persons who become dependent during the contract period will be entitled to the benefits of this contract sixty days after the member has certified said dependents to the Regents. For an additional charge of \$4.08 annually, the Regents will pay to the hospital furnishing the hospital service, as that term is hereinbefore defined, to dependents one-half of its regular charges but not to exceed one-half of the member "Hospital Service" except in cases of Section 3, subsections f and h, when the full twenty-five per cent of the regular charges will be paid.

5. The Regents agree to pay to the hospital furnishing such hospital service as that term is hereinbefore defined, to members and dependents who become confined as maternity patients after this contract has been in force ten months, the regular allowances for hospitalization. The ten-month provision is waived in case of renewal.

6. If a subscriber, or dependent, should desire hospital accommodations which are more expensive than \$3.50 per day, he or she may have such accommodations, if available, at the established rate charged therefor by the furnishing hospital and shall receive credit upon such charge by virtue of this contract of \$3.50 per day in case of a member and \$1.75 per day in case of a dependent for each day during which such accommodations are furnished, not exceeding twenty-four days in any contract year starting September 16.

7. Payment will be made for hospital service only if such hospital service is furnished upon the recommendation of a physician or surgeon who is licensed to practice medicine by the State wherein the hospital is located.

8. No payment will be made for hospital service after such service is deemed unnecessary by the attending physician or surgeon.

9. The member shall present his identification card, properly signed, when applying for hospital service.

10. This contract does not confer upon the Regents the right to select a physician or surgeon for the member. The member shall be at liberty to select his or her physician or surgeon, provided only that such physician or surgeon be licensed to practice medicine by the State in which such hospital as may be selected is located, and nothing contained in this contract shall interfere with the ordinary relationship between the member and any such physician or surgeon selected by the member.

11. No person other than the member or his dependents, as recorded at the office of the Comptroller of the University of Minnesota, is entitled to any benefits under this contract. It is not transferable, and shall be forfeited if the member attempts to transfer it, or aids or attempts to aid any other person in obtaining any benefits under it.

12. The member consents that the hospital may furnish the diagnosis of the member's or dependent's attending physician and the history of such hospitalization to the Comptroller of the University of Minnesota for statistical purposes.

13. This contract shall be forfeited if the member fails to pay the annual charge, or any part thereof, within thirty days after the same becomes due and payable, as provided on the face of this contract. Reinstatement of this contract may be applied for on the same basis as any new member hereinbefore provided.

14. Membership shall continue for the period covered by deductions or cash payments but in no case beyond the September 15 following separation from the University service.

15. Subject to the consent and approval of the Regents, this contract is renewed on the following September 16 and annually thereafter, at the rate and subject to the provisions pertaining to the renewal contained in the regulations adopted by the Regents for the Group Hospitalization Service. Any member, however, may withdraw provided written notice of withdrawal is filed with the Comptroller of the University not later than August 31.

16. The Regents will from time to time adopt regulations for the interpretation and application of this contract for Group Hospitalization Service. Such regulations will be on file and available for public inspection at the office of the Comptroller of the University of Minnesota and the terms thereof shall be binding and conclusive upon the parties to this contract.

17. This contract constitutes the entire contract between the parties. Neither the Regents of the University of Minnesota nor any of its agents or employees is authorized to vary or change any of the terms of this contract, except to make necessary and proper insertions in blank spaces. This contract is not valid unless countersigned by an authorized agent.

CLASSIFIED SERVICE FOR THE NONACADEMIC STAFF

On January 29, 1937, the Board of Regents approved rules and regulations relating to personnel, thereby establishing at the University a classified service for nonacademic employees with 265 classes of employment, and creating a Committee on Classification of Non-academic Personnel to administer the new procedures. This was a significant step, the first of its kind by any major educational institution, and it has the effect of introducing upon the campus a university "civil service" procedure which, with its high standards and methods of employee selection, insures the maximum of efficient service from employees, and guarantees to them the utmost in fairness in all matters pertaining to conditions of employment.

The growth of new occupations.—In recent years the staff of any modern university has undergone changes of far-reaching significance. It no longer consists simply of a president, deans, professors, instructors, assistants, with a few janitors to clean buildings and keep fires burning, and perhaps an occasional secretary. During the past two decades there have been added to the university payrolls large numbers of new occupations, vocations, professions, and callings—all of which reflect the growth in complexity of modern knowledge and its applications. The growth in numbers of the new services and of the individuals who are performing them introduces new problems in university administration. On one hand

these workers employed by the universities are in competition with similar workers employed by nonacademic agencies, and corresponding wage rates, standards of employment, and other matters pertaining to conditions of employment must be given constant consideration. On the other hand, these workers must be integrated into an organization consisting of an academic staff whose rights, privileges, and emoluments have a traditional background of long standing.

The problem can be seen concretely by examining the budget of the University of Minnesota for 1917-18 in comparison with the budget for 1937-38. In the former year a number of janitors, maids, clerks, library workers, and nurses, a few so-called technicians, some laborers, and an occasional service man were shown. The budget of 1937-38 presents a very different picture. There are the groups named above in larger numbers and in addition artists, costumers, musicians, photographers, chemists, curators, dentists, dietitians, editors, engineers, physicians, veterinarians, anesthetists, therapists, psychometrists, pharmacists, social workers, statisticians, medical technologists, various grades and classes of library and fiscal workers, and clerks, telephone operators, office appliance operators, the new classes of radio and moving picture film workers, and more than a hundred others, not to mention the whole range of skilled trades workers. At the University of Minnesota these non-academic workers now constitute over 40 per cent of the total number of employees.

The reasons for this marked change of personnel are not difficult to determine. A study of business and industry would undoubtedly show similar changes. Not all of the work performed by the groups is new although some of it obviously is. Much of it was done before by staff members with academic ranks and by others in conjunction with more important duties. It appears that the University has in part, at least, met its problems of expanding student bodies and expanding fields of instruction and research, not by the employment of correspondingly more professors and instructors, but by the employment of new and additional trained specialists, many of them on lower salary levels. This change need cause no apprehension. Undoubtedly the task is being reasonably well done, the results are satisfactory, and university finances have not suffered by the shift. It appears quite probable that the shift may become even more pronounced.

The need for classification.—It is evident, with such a large number of employees in so large a number of occupations, that inconsistencies could easily develop with respect to duties, to titles on which rates of pay in part were based, to promotions, vacation allowances—in fact, to all matters pertaining to employment. There could well be doubts in the minds of administrative officers that, for example, all individuals bearing the same title were in fact doing comparable work; or contrariwise, that individuals doing comparable work were regularly given the same titles. Such doubts would be but a reflection of the rapidity with which the nonacademic staff had grown. There could also be parallel doubts relating to selection of employees and innumerable problems associated with promotion.

While no grave injustices were probably involved in most cases at the University of Minnesota, it is the premise of the administrative officials that all individuals on the nonacademic staff doing the same types

of work should receive similar treatment, within the limits set by experience and special qualifications, and that all employees are entitled to know fully the terms on which their class of employment is based and to understand the privileges that may be associated with it.

Classification in the clerical staff.—The backgrounds out of which the new classified service developed date to 1920. Clerical workers are a large group in the nonacademic staff, and the desirability of some standardization of employment conditions was earliest apparent in connection with them. In 1920, apparently upon the basis of a cursory examination, there was attached to each position a salary rating which insured the incumbent a beginning salary but without advances to a maximum, provided service was satisfactory. In 1927, a careful survey was made of all clerical positions. Duties were examined, classes were established, definite titles were assigned, class specifications, duties, qualifications, salary, and leaves were determined. Between 1927 and 1933, additional rules relating to promotions, discharges, and suspensions were developed and progress was made in improving and holding this personnel by recruiting it through one employment office and by the use of tests for entrance and promotion. By 1933, it was clear that the so-called plan of Classified Clerical and Stenographic Service had distinctly raised the standard of service and that the personnel itself was far more contented although the cost to the institution was largely unchanged.

Analysis of nonacademic positions.—In 1933, President L. D. Coffman, upon the suggestion of the comptroller, appointed a special committee charged with the responsibility for making a survey of all nonacademic employees in the hope that a study of the positions would bring results similar to those achieved earlier in the clerical and stenographic service. This committee included representatives from the Physical Plant, the Department of Agriculture, the University of Minnesota Hospitals, the Medical School, the Library, and the Business Office. What was planned as a one-year study developed, because of complexities and thoroughness, into four years of intensive work.

At the University of Minnesota the nonacademic staff is regarded as consisting of all university employees except general administrative officers (president, comptroller, supervising engineer, registrar), deans and directors, assistant deans, instructional staff with extra institutional duties, all the instructional staff with the rank of instructor and above, and the instructional staff below the rank of instructor (except for a survey of duties to insure that they are not nonacademic in nature).

The first act of the special committee was to obtain from employees a complete job-picture including an employment history, a statement of qualifications, a record of privileges (vacation allowances, etc.), a statement of duties, a distribution of time with respect to duties, and a detailed description of actual functions performed. Forms on which to provide these data were sent to the following:

1. All nonacademic staff, exclusive of general administrative, on the university payroll not in the clerical, stenographic, and secretarial classified group.
2. All members of the academic staff below the rank of instructor.
3. All employees on the regular payroll of the University, as defined in 1 and 2 above.
4. All employees occupying substantially permanent positions on the miscellaneous payroll, as defined in 1 and 2 above. (Permanent positions are defined as those requiring occupants for at least six months in each fiscal year.)

The forms were prepared by each individual employee and checked by the department heads and the dean or administrative officer involved, thus insuring greater accuracy and also providing a basis for adjustments that might later be found necessary.

The details of analysis.—With the return of the schedules, the special committee began its laborious and time-consuming work, much of which fell upon its secretary, Mrs. Dorothy Johnson, director of the University Employment Bureau. The duties of each position were studied. Positions having substantially the same duties were filed together. Class titles were assigned, classes were defined; duties by example were written, and qualifications of education and experience were set up for each and every class. The steps which the committee had to take may be summarized:

1. An analysis of the duties of each position in the nonacademic service, as just described.

2. The establishment of classes of positions, based on the foregoing analyses with definite titles, compensation, leave, duties by example, and qualifications.

3. The assignment to the classes so established of each nonacademic position.

4. The establishment of rules and regulations governing the nonacademic personnel, these to include the establishment of a body charged with the administration of the service, the definition of the scope of the service, and the necessary rules pertaining to appointments, transfers, promotions, probationary periods, suspensions, discharges, medical examinations, religion, politics, the working day, vacation and sick leave, establishment of new classes, reclassification of positions, class salary changes, and any other special arrangements peculiar to an institution, such as the employment of relatives and the conditions under which full-time employees may register for academic work.

Having made its analysis of positions on the campus, having established its classes and assigned positions to them, the committee turned to the problem of salaries and wages for these classes. It was agreed at the outset that regardless of what scales were set, no employee receiving compensation in excess of that scale should be reduced, but that all future employees in the given position must conform. As might be expected, the salary to be attached to each class was a major problem. The rates the University was paying were the starting point but comparisons and checks with other educational institutions and with rates paid for comparable employment outside of the University had to be made.

The committee settled on four forms of salary denominations, and every position carries one of the designations:

1. *Normal.*—The average salary which under present conditions the position should demand. Salaries below and above to any maximum stated, would be dependent upon the individual capacity of the incumbent and differences in the duties assigned.

2. *Maximum.*—The maximum salary which a position should pay under present conditions, regardless of individual capacities and duties performed.

3. *Specified salary ranges and increments.*—Salaries stated, for example, as follows: \$960, \$1,020, \$1,080, indicating the beginning salary and automatic salary increases to be made after each fiscal year of service to the maximum stated, dependent upon departmental recommendations and university finances.

4. *No salaries stated.*—No salaries are stated for administrative positions above administrative assistants, for the reason that the duties assigned and the individual capacities involved do not permit of normal, maximum, or annual salary increments.

The salary alone is not sufficient. It must be related to a definite term of service and often the compensation is partially in the form of

room and board or other similar perquisites. The committee, therefore, listed the perquisites and established their value as follows:

| Code No. | Perquisite | Value per Month | Code No. | Perquisite | Value per Month |
|----------|-------------------------|-----------------|----------|-----------------------|-----------------|
| 1 | Residence | \$40.00 | 6 | Room only | \$10.00 |
| 2 | Full maintenance | 40.00 | 7 | Dinners only | 12.50 |
| 3 | Board and room | 35.00 | 8 | Lunches only | 7.50 |
| 4 | Board and laundry | 30.00 | 9 | Breakfasts only | 5.00 |
| 5 | Board only | 25.00 | | | |

The standardization of vacation leaves for the nonacademic staff also was accomplished by the committee, as well as systematizing the regulations relating to leaves of absence, the accumulation of leaves, etc. Rules governing employment that were already in existence were re-examined and codified.

A typical class.—These tasks completed, there were for each of the 265 classes established by the committee these items:

1. Class title and distinguishing number
2. Definition of class
3. Duties by example
4. Qualifications for entry to the class
5. Term of appointment, vacation leave, salary and perquisites and in some cases hourly compensation rates for casual temporary services.

To illustrate:

9104
EQUIPMENT ATTENDANT

III 1200-1260-1320-1380
Temporary 50¢ per hr.
60¢ per hr.

Definition of Class:

Under departmental supervision to have charge of a university equipment supply department.

Duties by Example:

To be responsible for the custody and issuance of mechanical equipment such as instruments or tools; be responsible for the care and maintenance of such equipment; keep records; make inventories; perform related duties.

Qualifications:

High school education desirable; special knowledge of equipment and skill in its upkeep, as required.

The number 9104 is the class designation for identification. The letter A indicates the period of appointment, in this instance 12 months a year. The Roman numeral II shows the weeks of vacation. A regular employee in this class enters the service at \$1,200 a year and advances by the increments shown, to the maximum that this class pays—\$1,380. All equipment attendants thus receive equal treatment and equal privileges. Each knows what promotions he may expect and what the limits of the position are. Each knows that he will receive two weeks vacation with pay. All of this information is on the appointment blank given to each appointee.

The final steps.—When the analysis was finished and the classification system drawn up, the report of the committee was forwarded to the president for his consideration. There was also consideration and approval by the Administrative Committee of the University (committee of deans). Lastly, the Board of Regents accepting the plan in principle, appointed a smaller committee to carry out the delicate task of assigning

each employee of the University to an actual class in the new framework. This required weeks of study and conference. It was during this phase of the work that it became increasingly apparent that the job could never be finally completed. Positions, like institutions, are in a constant state of flux. Too many analyses of duties prepared in 1934 were out of date in 1936. Reclassifications of positions were necessary even during the course of the study and would continue to be necessary after the completion of the study. Obviously, salary schedules would have to be revised from time to time; new positions and new classes would arise; new duties would attach themselves to positions; recruiting for vacancies would constantly need attention; qualification tests, physical and mental, would have to be developed; appointments, transfers, promotions, and demotions would occur; discharged or suspended employees would demand hearings; and many interpretations of rules and regulations would be demanded. Some administrative body must be established to handle these things. The solution was the establishment of the "Committee on Classification of Non-academic Personnel," an internal university civil service commission.

The classified service for the nonacademic staff was now at the point where it could begin to function. The board approval in January, 1937, made it effective on July 1, 1937, and the changes involved were incorporated into the budget of 1937-38. The director of the Employment Bureau as executive secretary, and the comptroller as chairman of the committee appointed by the president, are the university officers primarily concerned in the administration of the service. The committee meets on call. During 1937-38 the meetings were far more frequent than they will probably be in the future. The lack of seasoning of the plan and the unusual number of labor union requests were the principal reasons for this.

As a means of aiding the newly created Committee on Classification of Non-academic Personnel as well as simplifying its own duties and responsibilities, the Board of Regents on May 12, 1938, enunciated these principles:

I. Communications from union representatives relative to the nonacademic staff.

In the future business representatives of the unions must address communications for university consideration relative to university employees to the comptroller, as chairman of the Committee on Classification of Non-academic Personnel, and not to other administrative officers of the University.

II. Changes in classes, rates, and working conditions of the nonacademic staff during the fiscal year.

The University operates on a fiscal and budget year beginning July 1 and ending June 30 of the following year. The income of the University during the biennium is relatively fixed. It is therefore essential for operating purposes that classes, rates of pay, and additional privileges established at the beginning of the biennium carry throughout the biennium. The Regents will not give further consideration to changes in classes, rates of pay, or additional privileges for the biennium ending June 30, 1939.

A year's results.—The university classified plan has been in full operation for a year, probably not long enough to understand fully the advantages which may accrue from its adoption. Yet in this short time it is apparent that the goal of like pay for like work is in sight; that the new avenues of promotion for able people, the assurance of equitable

treatment for the majority, the recognition of merit, objectively measured, and the hope for a future have distinctly improved the morale and efficiency of the nonacademic staff; that the personnel records, as well as the budget and financial records, are more complete, accurate, and illuminating; that the University now has machinery to meet most personnel situations; and that the recruiting of new employees is such that efficiency of service will be enhanced. Unquestionably the greatest advance in the future will be the establishment of tests and other aids in this field of recruiting.

Rules and regulations.—Because of their importance and general interest, the Rules and Regulations Relating to Personnel as revised by the Board of Regents on January 1, 1938, are reprinted here in full:

COMMITTEE ON CLASSIFICATION OF NON-ACADEMIC PERSONNEL

1. *Definition:* The Committee on Classification of Non-academic Personnel (hereinafter referred to as the Committee) shall consist of three University staff members appointed by the President of the University, and approved by the Administrative Committee of the Senate. The Comptroller and the Director of the Employment Bureau shall also be members ex-officio of the Committee, and the Director of the Employment Bureau shall serve as executive secretary of the Committee (hereinafter referred to as the Secretary).

2. *Duties:*

- (1) Under the direction of the President to be responsible for the administration of the certification, job classification, and salary schedules of the non-academic personnel under the rules and regulations approved by the President and the Board of Regents.
- (2) To consider and propose to the President from time to time revisions in policies, job classification, salary schedules, and rules and regulations of the classified service.
- (3) To be responsible for all records necessary to the administration of this classification of non-academic personnel.

CLASSIFIED SERVICE OF NON-ACADEMIC PERSONNEL

1. *Definition:* The classified service of non-academic personnel shall include all positions in the University on the regular payroll and those positions on the miscellaneous payroll substantially permanent (six months or more of every year) except:

- (1) General Administrative Officers
- (2) Deans and Directors
- (3) Assistant Deans
- (4) Instructional staff with extra-instructional duties
- (5) Instructional staff (including all with the rank of instructor or above)
- (6) Instructional staff below the rank of instructor with respect to selection, appointment, and removal

2. *Appointments: Transfers: Promotions: Demotions:* Appointments in the non-academic staff shall be understood to be for the fiscal year, subject to annual renewal by the Board of Regents.

Vacancies in the non-academic classified service shall be filled as far as practicable by promotion from among persons holding positions of a lower rank in the University; such promotions are to be based upon merit as indicated by examinations, previous experience, and service with due weight to seniority.

All recommendations for appointments, transfers, promotions and demotions to positions in the classified service shall be reviewed by the Committee.

The Secretary shall maintain a file of applicants for positions together with information as to their qualifications. Information from this file shall be made available upon request to administrative officers and heads of departments.

Vacancies shall be filled by competitive examination except in such cases as the Committee shall recommend for exemption. Such examinations shall be con-

ducted under the supervision of the Committee or such members of the staff as it may call upon for assistance in conducting written or oral examinations.¹

3. *New Positions: New Classes: New Duties:* The Committee shall classify all new positions in the classified non-academic personnel, recommend the establishment of new classes, and review all changes in duties affecting the classification of positions.

4. *Probationary Period:* The appointment of an individual entering the classified service shall be made for a probationary period of six months during which period the appointment may be terminated. If the appointment is terminated by the administrative officer or department head during the probationary period the reasons for the termination shall be stated on the prescribed resignation form. If the appointment is not terminated and the Secretary is not notified of unsatisfactory service, the appointment shall be continued.

5. *Vacancies:* All University offices shall notify the Secretary of any imminent vacancy in any other group than the "Teaching and Research Assistance," "Extension Assistance" or any other group or positions exempted by the Committee.

The Committee shall then examine and certify eligibles appropriate to the position, or, in case of waiver of examination by the Committee, the Committee shall certify qualified candidates.

6. *Records:* All University officers shall from time to time as requested provide the Secretary with pertinent information regarding the efficiency and conduct of employees that might be of importance to their service records.

7. *Suspensions: Discharges:* Any employee in the classified service who has completed the probationary period may be suspended or discharged by the administrative officer or the department head for just cause. With the exception of the "Teaching and Research Assistance," "Extension Assistance" or any other group or positions exempted by the Committee, the administrative officer or the department head shall notify the employee and the Secretary of the reasons for such suspension or discharge and said employee shall have the right of appeal to the Committee within two weeks after the receipt of such notice. The Committee shall if requested provide a hearing and make recommendation to the President and the Board of Regents for action.

8. *Salaries:* Salary rates for the non-academic personnel shall be maintained according to the salary schedule as adopted, subject to general financial limitations, and such schedule shall remain in effect for each position in the classified service until revised upon recommendation by the Committee and approval by the President and the Board of Regents.

9. *Medical Examination:* A medical examination may be required by the Committee from any individual in the non-academic personnel at the time of appointment or at any time during the period of service.

10. *Religion and Politics:* In no case shall enquiry be made as to religious or political affiliations of an applicant or an incumbent.

11. *The Regular Working Day:* The standard working day for office employees shall be seven and one-half hours except for Saturday. Employees will be allowed a half holiday on Saturday afternoon whenever the work in their department is completed and there is no other necessary work to be done. Overtime without pay shall be required when necessary, but may be compensated for in a reasonable manner by hours of leave at times when the work of the office will allow it.

The standard working day for other than office employees shall be eight hours except as the practice of the profession, trade or vocation may otherwise designate.

¹ Committee Interpretation

a. When a position in a class with a salary increment schedule is filled by the promotion of a person from a position in a class with a lower salary increment schedule, the salary shall be that indicated for the first year of the new class, except where that figure is the same or less than the person is receiving. In such case, the person shall be appointed to the next higher salary in the schedule when accepting the new position. If the person is not then at the maximum of the class, the automatic increase on the following July 1 shall also be granted, provided that the promotion was made on or before October 1.

b. The fiscal year extends from July 1 to June 30. However, a person employed on or before October 1 shall be regarded as having rendered a year of service by the following July 1. Those employed after October 1 will not be qualified for advance in salary until the second succeeding July 1.

LEAVES

1. *Vacation Leave*: University employees in the non-academic classified service on regular payroll on twelve-month full-time appointments, shall be entitled to annual vacation with pay provided that such employees have given one fiscal year's full-time service. Such employees shall be entitled to pro-rata vacation allowances provided that on the first June 30 following their employment they have rendered six or more months of continuous service.

University employees in the non-academic classified service on the miscellaneous payroll on twelve-month full-time service shall be entitled to annual vacation leave with pay provided such employees have given two consecutive fiscal years of full-time service.

Full-time employment on the miscellaneous payroll preliminary to regular employment and the probationary period shall be considered in the term of service. All leaves of absence with pay regardless of duration, and leaves of absence without pay to a maximum of four months, may be counted as part of the period of service in determining vacation allowances. Leaves of absence without pay longer than four months shall be deducted in their entirety from the year of service.

All vacations shall be taken at a time acceptable to and convenient for the department concerned.

In case of resignation of employees on the regular payroll at the end of the first fiscal year of service and of employees on the miscellaneous payroll at the end of the second fiscal year of service, vacation allowances shall be granted if notice is given on or before June 1. In case of resignation during a subsequent year at other than the close of the fiscal year, pro-rata vacation shall be allowed.

2. *Sick Leave*: In addition to and upon attaining eligibility for vacation leave, sick leave with pay for a period not exceeding four weeks may be permitted to full-time non-academic employees on twelve-month appointments. A medical certificate may be required.

3. *Accumulation of Leaves*: Vacation taken in any fiscal year shall be in recognition of services rendered in the preceding year. Neither vacation nor sick leaves may be accumulated from one fiscal year to another.

4. *Part-Time Employment*: No vacation allowances with pay are permitted to members of the non-academic personnel who are serving less than full time on twelve-month appointments.

5. *Recesses*: Members of the non-academic personnel are not entitled to additional vacation leave at the time of student recesses and vacations.

VACATION ALLOWANCES

The following groups shall be entitled to a vacation leave of at least one month with pay:

1. General Administrative Officers
2. Deans and Directors

The following groups shall be entitled to a vacation leave of four weeks with pay:

1. Administrative Officers
2. Assistant Administrative Officers
3. Assistants to the Deans
4. Secretary to the President
5. Nursing Group
6. Social Service Workers
7. First Library Assistants
8. Secretaries
9. Teaching and Research Assistance group (Class A)
10. Agricultural Extension Assistance group
11. Instructional and Extra-instructional group (Class A)

The following groups shall be entitled to vacation leave of three weeks with pay:

1. Administrative Assistants
2. Professional and Scientific group
3. Library group (except First Library Assistants)
4. Fiscal group
5. Clerical group
6. Foremen in the Service group

The following group shall be entitled to vacation leave of two weeks with pay:

1. Service group (with the exception of Foremen and Skilled Tradesmen and Trades Helpers employed at prevailing union rates).

RELATIVES

Not more than one member of a family may be employed in a temporary or permanent capacity without the specific approval of the Board of Regents. This policy applies to temporary as well as permanent appointments.

The employment of two members of the same family by the University of Minnesota shall not be regarded as violating the spirit of the regulation if either of the two following things is true:

First, that either member is in the University primarily in the capacity of a student and only secondarily in the capacity of an employee. This will cover such cases as irregular work by the hour done by students; those engaged as fellows, scholars, assistants, readers, and the like.

Second, where because of the location of the work, it is very difficult if not quite impossible to secure suitable employees without using more than one member of the same family. This situation applies particularly to the outlying stations.

"Members of a family" shall be interpreted as including relatives of the fourth degree (uncles and aunts)² or closer, including relatives of the same degree resulting from marriage or adoption.

RETIREMENT AND INSURANCE

Employees in the classified service shall be included in the retirement and insurance plans in accordance with the provisions of the action of the Board of Regents, November 15, 1929, and all subsequent revisions and interpretations of said action.

REGISTRATION IN UNIVERSITY CLASSES

Full-time employees in the non-academic classified service may enroll in University courses that do not conflict with their regularly prescribed hours of employment.

Full-time employees in the non-academic classified service, working in departments that operate on the customary University work schedule (8:30 a.m. to 5:00 p.m. with adjustment on the Farm Campus, at the outlying stations, and during the summer months) may not enroll in University classes during the hours the department offices are expected to be open except as indicated below.

Full-time employees in the non-academic service, working on fixed time schedules and in departments that operate on other than the customary work schedule of the University, may enroll in University classes that do not conflict with their regularly prescribed hours of employment.

Full-time employees in the non-academic service who do not have regularly prescribed working hours may not enroll in University classes without the written approval of the department head, the dean or administrative officer, and the comptroller.

Full-time employees in the non-academic service who desire to enroll in University classes which do conflict with their regularly prescribed working hours may do so upon approval of the department head and dean or administrative officer, provided that their compensation is proportionately adjusted in the regularly prescribed manner.

MEDICAL EXAMINATIONS OF CANDIDATES FOR NONACADEMIC POSITIONS

As a means of safeguarding employment standards as well as affording protection to the large numbers of students and employees on the campus at the University, the Board of Regents in 1937 incorporated

² Amended, Board of Regents, October 9, 1937.

into the *Rules and Regulations Relating to Personnel* the following section relating to physical examinations:

A medical examination may be required by the committee [Committee on Classification of Non-academic Personnel] from any individual in the non-academic personnel at the time of appointment or at any time during the period of service.

Food handlers and hospital employees had previously been given physical examinations. In the spring of 1938 the physical examination was made a prerequisite to employment in any position on the nonacademic staff. The Students' Health Service was asked to conduct the examinations. A complete physical examination, including a tuberculin test, Wasserman test, and an electrocardiogram for certain age groups is given each new applicant for employment. A report of the physical fitness of the applicant for the particular position for which he is being considered is then sent to the University Employment Bureau. These examinations are done by the regular staff of the Health Service and are similar to the complete health examinations which are given university students. Up to June 30, 1938, 49 applicants for positions on the nonacademic staff were examined.

THE UNIVERSITY'S EXTERNAL RELATIONS

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THE UNIVERSITY RADIO STATION WLB

During the biennium the long struggle for more adequate broadcasting time for the university station WLB came to a successful conclusion. For approximately eight years the University and St. Olaf College, Northfield, have shared with the Minneapolis commercial station WTCN a wave length using the frequency of 1,250 kilocycles. The two educational stations each used about eight hours a week and the remainder of the time was allocated to the station owned by the *Minneapolis Tribune* and the *St. Paul Pioneer Press-Dispatch*. This arrangement was unsatisfactory to all the parties involved. The newspapers were deprived of certain evening hours which precluded them from receiving national network programs. The educational institutions were so cramped in their schedules that they had no opportunity and leeway for experimentation, and no flexibility in operation. In addition, their hours were badly split, and consecutive hours of broadcasting were not possible. This was a great handicap in the attempt to build up listening audiences.

As a possible means of relieving the situation an application was made on August 3, 1936, requesting of the Federal Communications Commission a new wave length using the frequency of 760 kilocycles. This could be used for daytime hours only, but, all arguments considered, consecutive and increased daytime broadcasting had much to commend it for the educational stations, and these gains, it was agreed, outweighed the losses following the possible discontinuance of such evening hours as were hitherto available. The University and St. Olaf College therefore agreed to relinquish evening hours and to divide the daytime period on the basis of two thirds to the University and one third to St. Olaf. Depending upon the season of the year, this arrangement, if the application were approved, would give WLB from thirty to thirty-eight hours of time on the air each week. The gains would thus be considerable.

The application for the new wave length met sharp resistance from other commercial stations. The hearing before the Federal Communications Commission was held in Washington on May 5, 1937, and was attended by representatives and witnesses for the University, St. Olaf College, and station WTCN. A decision was rendered by the commission on September 28, 1937, approving the application, and granting both the change in wave length and an increase in power from 1,000 to 5,000 watts. These changes assured far greater coverage by the two educational stations. The university programs are now heard effectively over a large part of the state, thus increasing the services that the University can offer through the medium of radio.

In the fall of 1937 work was started on the changes that had to be made as a result of the shift in wave length and the additional power. It was necessary to double the capacity of the transmitter building, located on the Farm campus. The latest model RCA air-cooled 5,000-watt transmitter was acquired and installed, and in the spring of 1938 a new single-mast tower was erected to a height of 329 feet. Programs over the new apparatus began on May 2, 1938.

Before extended program operation could begin it was also necessary to develop an operating staff. Mr. Burton Paulu, who had been associ-

ated with WLB for several years, was named acting director, and a group of assistants was organized to help him carry the work.

The former quarters of WLB on the third floor of the Electrical Engineering Building were no longer adequate when the expanded programs were introduced. To meet the space needs of the station, and to provide quarters that will make it possible for the University to inaugurate new types of educational broadcasts, the entire ground floor of Eddy Hall (formerly the School of Business Administration Building) has been remodeled and adapted as a broadcasting center. A subsidiary studio has also been equipped on the Farm campus.

FOOTBALL SEATING

The perennial problem of football seat locations in Memorial Stadium was the subject of intensive study by a special committee appointed by the president in 1937-38. Memorial Stadium was completed in 1924. For ten years thereafter there was no serious ticket problem, but the success of Minnesota football teams in 1934, 1935, and 1936 created such a popular interest in the game that the pressure for seats began to tax the capacity. The Stadium was oversold for the Michigan game in 1934, for the Northwestern game in 1935, and for the Iowa and Nebraska games in 1936. Since the regulations of the University Ticket Committee give preference to season book holders, the demand for season books grew to the point where it became virtually impossible for alumni and others to obtain tickets for individual games in what might be termed desirable locations.

Pressure of subscribers to the Stadium and the Northrop Memorial Auditorium funds who had been promised preference in the purchase of season books resulted in encroachments on the student section. Moreover the student body itself increased in size and the general interest in football was reflected by an increased demand by the students for student books. This situation, coupled with the fact that there are only 20,000 seats within the projected area of the playing field, created a potential unrest among 30,000 ticket purchasers. This reached a crest in 1937 and the appointment of the special committee to study the problem was the result. On this committee were represented the All-University Council, the faculty, the university employees, the Alumni Association, the "M" men, the Stadium subscribers, and the Senate Committee on Intercollegiate Athletics. The final report and recommendations of the committee were accepted by the Senate Committee on Intercollegiate Athletics on June 1, 1938, and the allocation of football tickets for the fall season of 1938 has been in conformity with the recommendations. These are:

1. The assignment of seats to students shall begin with the line between Sections 5 and 6 and run east. Students shall be seated by classes, in the following order: (1) seniors and graduate students; (2) juniors; (3) sophomores; (4) freshmen; (5) extension students. When students of several classes wish seats together in a group, they must accept ticket assignments in the section assigned to the class which is lowest in each group. The ticket office will be governed by the classification shown for each student on his fee statement.

2. A strict limitation of a maximum of four seats for each new purchaser of preferred season tickets shall be adopted. The committee is in sympathy with the

principle of preference in location as stated hereinafter and approves it as an objective: (1) stadium subscribers; (2) alumni who have bought tickets three out of the past four years; (3) any season ticket buyer who has bought tickets three out of the past four years; (4) any season ticket buyer.

3. Faculty and employees and "M" men shall be assigned seats beginning with Section 5 and running west. There should be a strict limitation on the number of seats assigned to an individual in these classifications, the maximum being two tickets each.

4. Seats not assigned to season ticket buyers in Section 2, not to exceed 1,000 seats, shall be made available to single game ticket buyers. In assigning seats to single game subscribers in this section, the ticket office should attempt to give the preferred locations to Stadium subscribers and alumni from outside the Twin City area who have not previously had preferred locations, either as previous season ticket holders or single game purchasers.

5. The foregoing seat assignments shall be made a matter of formal instruction to the football ticket manager from the Senate Subcommittee on Tickets. No exception shall be made to the regulations as established by this committee for the administration of the ticket office.

PRESENTATION OF THE TOLEDO FOOTBALL TROPHY

The Toledo Cup, symbolic of the mythical national football championship, came into the possession of the University of Minnesota at ceremonies in the Field House on February 6, 1937. The cup, presented annually to the college football team which is adjudged national champion by a jury of 250 sports editors, is held for one year, but three successive awards give permanent ownership. Minnesota won the award in 1934, 1935, and 1936. In addition to the cup, the coach of the winning team—in this case Mr. Bernard W. Bierman—receives a testimonial scroll, and a set of gymnasium scales is given to the athletic department of the institution.

In accepting the Toledo trophy, President L. D. Coffman said:

I am glad to accept the Toledo Cup for the University of Minnesota. I observe by the rules that the cup becomes the permanent possession of any team winning it for three successive years. I make no comments upon that rule beyond saying that we are pleased to have this trophy become the permanent property of the University. Whatever sentiment we may attach to it now will undoubtedly be enhanced as the years pass. Any college or university has the right to be proud of a team that wins as cleanly, as squarely, and as forthrightly as the Minnesota teams of 1934, 1935, and 1936. This sounds just a bit like boasting but I base my statements on the fact that 250 sports writers voted Minnesota the Toledo Cup as a tangible evidence of the esteem in which they held the Gophers for three consecutive seasons. While a winning team fills one with pride, we must never forget that there is more to the game than winning. As a matter of fact, the law of averages so operates that it is not possible for every team in the country to win all of its games every season. Somebody has to lose. As we accept the trophy that symbolizes our victories, it may be well to think for a moment of our opponents. They, too, are entitled to some of the credit for their sportsmanship.

College football has a powerful appeal because it is played by young men who take it sufficiently seriously, and for the most part, with some sense of proportion. To them the *game* is the thing—and that means taking the losses with the wins. They seldom fail to respect the efforts of the opposing team. So long as this sense of fair play and respect remains prominent, college football in this country will remain a fine game, worthy of our interest and support.

If this spirit is maintained here and on other campuses, college football will continue to have a fine and wholesome influence. It is to be hoped that the annual competition for succeeding Toledo cups will always be in such a spirit as I have just indicated. The cup becomes a symbol for the best in football and the purposes of its anonymous donors will be more than fulfilled.

PATENTS AND TRADEMARKS

The Board of Regents on September 29, 1936, authorized the comptroller to apply for a trademark on "Minnesota Blue Cheese—Cave Aged" in order that the University may secure for its research program funds arising from the development of this cheese. On September 25, 1937, the Regents authorized application for a patent on a new method of pulping wood with butyl alcohol, discovered by Dr. A. J. Bailey of the Division of Forestry.

TOXICOLOGICAL EXAMINATIONS

The Board of Regents on October 9, 1937 authorized the discontinuance, effective January 1, 1938, of the performance of toxicological examinations by the Department of Pharmacology, Medical School, for the coroners of the counties of the state.

SCIENTIFIC AND PROFESSIONAL MEETINGS

It is the privilege of the University to act as host from time to time to national and international scientific and professional associations and to hold conferences for special educational groups. These gatherings bring to the Twin Cities and to the campus leading scholars and the University is pleased to co-operate by extending its facilities for the meetings. Among the groups on the campus during the biennium were the American Psychological Association, the North Central Section of the American Student Health Association, and the American Association of Dental Schools. The American Association of Cereal Chemists also met in Minneapolis and a National Colloid Symposium sponsored by a committee of the Division of Colloid Chemistry of the American Chemical Society was held with a program divided between the campus and the Mayo Clinic, Rochester.

The American Psychological Association.—The American Psychological Association held its forty-fifth annual meeting at the University September 1-4, 1937. Once before, at its nineteenth annual meeting in December, 1910, the University had been host to the association. There were 854 persons registered for the meetings, of whom 10 came from foreign countries. All the states were represented except South Carolina and Nevada. The program consisted of 22 sessions at which 130 papers were presented by members of the association, and 8 round-table sessions. Two evening meetings were held in Northrop Memorial Auditorium. At one, research and instructional films in psychology were shown. The other, a general session, was the occasion at which the president of the association, Dr. Edward C. Tolman of the University of California, delivered his presidential address, "The Determination of Behavior by Stimuli—Past and To Come."

On August 30 and 31, preceding the regular meeting of the Psychological Association, the University was also host at the first, or organizational, meeting of the American Association of Applied Psychologists. Four hundred fifty-two persons who later attended the regular

meetings were also present at one or more of the meetings of the new association, and fourteen additional persons registered for the applied psychology meetings only. The American Association of Applied Psychologists had nine formal sessions at which fifty-eight papers were scheduled, and ten round-table sessions.

The American Student Health Association.—The North Central Section of the American Student Health Association held its sixth annual meeting at the University on April 29 and 30, 1938. In 1933, the American Student Health Association organized sectional groups in all parts of the country to enable the smaller colleges and teachers colleges to meet together and discuss the health problems of their schools. Many of these smaller schools were unable to belong to, and participate in, the activities of the American Student Health Association. The North Central Section includes ninety-one universities and colleges in Wisconsin, Iowa, Minnesota, North Dakota, and South Dakota. At the 1938 meeting thirty schools were represented. Dr. Ruth E. Boynton, director of the Students' Health Service of the University of Minnesota, is president of the sectional group.

American Association of Dental Schools.—The American Association of Dental Schools met in Minneapolis for the fifteenth annual session on March 14, 15, and 16, 1938. Matters pertaining to dental education and the administration of dental curricula were discussed. Various members of the staff of the University appeared on the program. The delegates spent one afternoon and evening on the campus and visited the School of Dentistry. They also heard a report by Professor Harl R. Douglass on aptitude tests as a device for determining the fitness of students for entering the profession. Omicron Kappa Upsilon, honorary dental fraternity, held its annual dinner meeting at the Center for Continuation Study; the address on "Economic Trends" was by Professor Herbert Heaton. At this meeting Dean W. F. Lasby was elected president of the supreme chapter of the fraternity.

A two-day meeting of the International Association of Dental Research preceded the sessions of the American Association of Dental Schools. More than one hundred reports on research projects were given, including ten by staff members of the School of Dentistry of the University of Minnesota.

American Association of Cereal Chemists.—This organization met in Minneapolis May 24-28, 1937. As indicating the part played by the University of Minnesota in training men in the field, 41 of the 227 chemists registered for the sessions had either received advanced degrees or taken special work in cereal chemistry in the Division of Agricultural Biochemistry. These 41 chemists are now located at such distant points as Ottawa, Winnipeg, and Chatham, Canada; Washington, D.C., Boston, Toledo, Battle Creek, and Kansas City. The Division of Agricultural Biochemistry at this University has had a part in training cereal chemists who are now working in Australia, New Zealand, Switzerland, England, India, and other foreign countries.

National Colloid Symposium.—The Fourteenth National Colloid Symposium sponsored by the Colloid Symposium Committee of the Division of Colloid Chemistry of the American Chemical Society was held at the University on June 10-11 and at the Mayo Clinic in Rochester on

June 12, 1937. The Committee on Colloid Science of the National Research Council also assisted in arranging the program which brought together leading research scientists from all over the United States. There were thirty papers on the program, with one third of them given by members of the University or the Mayo Clinic staffs.

Special conferences.—May 11, 1937, the School of Business Administration sponsored a conference on "Control of the Boom." At the afternoon session Dr. Bertil Ohlin, University of Oslo, Norway, spoke on "Swedish Economic Policy in Depression and Boom" and discussion was led by Dr. Fritz Machlup, University of Buffalo, and Dr. Alvin H. Hansen, University of Minnesota. In the evening Dr. Ohlin and Dr. Machlup both spoke on "Can We Control the Boom?" and discussion was led by Dr. Hansen, Professor Arthur W. Marget of the University of Minnesota, and Mr. Oliver S. Powell of the Federal Reserve Bank, Minneapolis.

On March 3, 4, and 5, 1938, the School of Business Administration sponsored a bankers' conference at the Center for Continuation Study, and every county in the state was represented among the three hundred who registered. The program was planned in close co-operation with the state commissioner of banks and the eight sessions were devoted to topics of immediate interest to Minnesota bankers. Included on the program were such subjects as: Problems of Utility Bond Analysis, The Tools of Federal Reserve Policy, Municipal Bonds, The Outlook for Interest Rates, Automobile Finance Company Paper, Factors Affecting the Level of Interest Rates, Managed Currency, and Bank Legislation.

Three special conferences for Minnesota teachers were arranged in 1937-38 by the College of Education. On March 18 and 19, the topic was "How To Utilize the Community in Teaching the Social Studies." The attendance numbered 150. On May 13 and 14 a joint conference of Minnesota high school English teachers and librarians was held. This was sponsored by the College of Education, the Library School, the Department of English, and the State Department of Education. Attendance was 250. A recreation conference was held April 29 and 30 with principal emphasis on the development of summer recreation programs. Speaking of these conferences Dean Wesley E. Peik of the College of Education says:

We believe these three conferences have shown us a way to improve our service to the educational workers of the state. No one department or college of the University, by itself, can adequately meet the needs of teachers on such occasions. Through carefully planned programs, made possible by the willing co-operation of various departments in the University with the State Department of Education, conferences such as the three held in the spring of 1938 should continue to contribute to the in-service education of teachers and other educational workers in the state. It is hoped that for each group they may be as helpful as Schoolmen's Week has been for school administrators and the Minnesota Conference on the Education of Teachers has been for teacher training institutions of the Northwest.

HOUSING THE UNIVERSITY

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APPROPRIATIONS FOR BUILDINGS

The 1937 session of the Legislature appropriated funds for two new university buildings, one to house the School of Business Administration on the Main campus, and the other for the Division of Forestry on the Farm campus. Both buildings will be ready for occupancy with the opening of the academic year 1938-39. They will help in some measure to relieve the pressures that are felt by departments as they try to carry on programs of instruction and research in the face of increasing enrollments and crowded quarters. There remain, however, other pressing building needs to which attention must be given in the immediate future.

For the School of Business Administration unit the Legislature appropriated \$300,000. For many years the school has been located in a structure that contained only 6 classrooms with a total seating capacity of 441 students, and office space for the staff was totally inadequate. The new building, located on the Mall and named Vincent Hall in honor of the third president of the University, contains 13 classrooms that provide seats for 973 students. It will now be possible to schedule all advanced classes and most of the elementary classes of the school in the one building, instead of in 8 different buildings as has hitherto been necessary.

The laboratory facilities in the new buildings are also more adequate. The accounting and statistics laboratories include the latest developments in design and equipment, and there is also the first tabulating room designed specifically for use in an educational institution. Another laboratory will be used by students preparing for secretarial work.

The 21 offices in the building must house 51 teaching members of the staff, which still leaves partially unsolved the problem of office quarters. The appropriation, which was \$100,000 less than originally requested, was not sufficient to construct a large lecture hall which had been included in the first plans.

The building is well designed. The classrooms are light and the wall colors and lighting arrangements are such as to create a favorable setting for effective teaching and study. The location is also good and in close proximity to the general library which constitutes the chief source of materials for instructional purposes.

The appropriation for the forestry building (Green Hall) was \$250,000. The building will provide all the necessary facilities for undergraduate and graduate instruction in professional forestry. A modern greenhouse is attached. Well-lighted, well-equipped laboratories are available for instruction in wood structure, forest mensuration, wood chemistry, forest products, mechanical properties of wood, etc. An auditorium seating approximately 370 persons and equipped with standard moving picture apparatus is available for instructional purposes.

In designing the building particular attention was given to the needs of graduate students and to the experimental and research programs of the Division of Forestry. The building has a graduate student study room, a graduate student research laboratory, and two small faculty research laboratories.

The facilities of Green Hall, combined with those for field study in forestry at the Forest Experiment Station, Cloquet and at the Forest and

Biology Station, Lake Itasca, and with the exceptional library facilities of the University, now provide the Division of Forestry with the necessary physical requirements to offer both undergraduate and graduate instruction in forestry on a high level and more adequately to investigate the many complex forestry problems confronting the state.

An appropriation was also made by the 1937 Legislature for the construction of a wing to the State Board of Health and Psychology Building, the additional space to be used by the State Board of Health. The state funds were supplemented by a Public Works Administration grant.

CORNERSTONE OF VINCENT HALL

By vote of the Board of Regents on December 17, 1937, the structure on the Mall which is to be used by the social sciences (the first unit of which is now completed and will house the School of Business Administration) was named Vincent Hall. This honors George Edgar Vincent, third president of the University, who served from 1911 to 1917. On December 20, 1937, ceremonies were held in connection with the laying of the cornerstone. In these the dean and faculty of the School of Business Administration, the acting president, and members of the Board of Regents participated. The following address was delivered by Mr. Fred B. Snyder, first vice-president of the Board of Regents:

Mr. President, Ladies and Gentlemen:

In the ups and downs in the careers of the state and the University there is an interesting likeness.

Nature endowed the state with a wealth of natural resources. The Federal Government endowed the University with lands rich in soil, timber, and minerals. The early settlers were overeager to develop the state's resources and pledged its credit for the payment of state bonds issued to build railroads. Likewise the University, being overoptimistic, mortgaged its campus to raise money for building purposes.

While these conditions prevailed the devastating panic of 1857, the Civil War, and the Indian outbreak sapped the ready money and the youth of the state. As a result the state repudiated its bonds, and the University, having defaulted in its mortgage, lay in the lap of its creditors with its unfinished building boarded up and without teachers or students—in fact almost without friends save for its loyal Regents who, after three years of labor, paid its debts by the sale of some of its endowed lands and opened its doors in 1868 as a going concern. A few years later the state paid off its repudiated bonds, restored its credit in the financial world, and by so doing wiped its escutcheon clean from the stain of repudiation.

Since then the state and its University have shared prosperity and adversity alike. If hordes of Rocky Mountain locusts, or drouth, or unseasonable frosts, or other uncontrollable dispensations of nature have pinched the state's resources, the University has felt the pinch. When nature's bounty and man's industry have showered blessings upon the state, the University has been blessed also. There is nothing fortuitous in this likeness since the University as a part of the state must, in the very nature of things, share in all its vicissitudes.

While it is true the University is only a part of the state, it is a most important part. It is sometimes called an arm of the state. It is more than that. To me it

seems to be the very heart of the state through which flows the life stream of ennobled understanding, in order that youth may be instructed, the truth in all things found out, and the welfare of the people safeguarded.

The people take pride in their University and loyally support and foster its good name. The legislatures and governors have always been friendly. Without that support and friendship the results attained by the Regents and the teaching staff could not have been possible. In 1889 when an effort was made to dismember the University, the legislature, voicing the wishes of the people and in consideration of a gift of \$150,000, gave "the solemn assurance that the unity of the several departments of the University shall always be preserved."

The management of the University is vested in a Board of Regents, made up of twelve members, elected by the legislature or in default of election, appointed by the governor. Since the University was founded, there have been, all told, 135 regents, three of whom have been women. If you ask: "Oh, Regents, what of the day? and what have you wrought?" I shall answer, they have honestly administered the expenditure of millions of dollars in the construction of buildings, in enlarging the campuses here and at the schools of agriculture, and in the payment of salaries to teaching and service staffs. They have handled trust funds aggregating several millions of dollars. They have elected five most worthy presidents, and appointed a staff of teachers which at first was only seven but which is now approximately eight hundred on full-time basis. They have overseen the instruction of 243,300 individual students. In 1873 they issued the first degrees—only 2—in 1937, 2,585. They have issued a total of 50,388 degrees up to June, 1937.

Today there is an attendance of 14,400 students of collegiate grade. If you add to these, those receiving instruction at the schools of agriculture, and in night and correspondence study courses, the total is 22,144. Its lands, buildings, and equipment are valued at \$44,000,000. As an educational institution it ranks eleventh in merit among the great institutions of the nation and third in student population.

All these things have come forth through the good will of the people, the friendship of the legislatures and governors, and the loyalty, high intelligence, and earnest co-operation of the teaching and research staff; and yet without the guiding and guarding hand of the 135 persons who have served their allotted terms as Regents since 1851, the results would not have been attained. They have served with unselfish devotion and without compensation or other reward. To them, past and present (please pardon my lack of personal modesty), is due a mead of gratitude and praise. By their work they have answered the inquiry, "Oh, Regents, what of the day? and what have you wrought?"

But this is not a day set aside to extol the good will of the people, the friendship of the legislatures and the governors, nor the work done by the teaching staff as a whole, in advancing the University. Rather it is a day to do honor and to offer congratulations to the School of Business Administration and to its dean and staff in particular.

What has been said for the institution in the large is meant to be a background whereon the achievements of the School of Business Administration may be shown, admired, and praised, as a selected gem in the setting of a jeweled bracelet is admired and praised.

Dean Stevenson, it is eighteen years since the School of Business Administration was established. Its first dean was George Dowrie. You succeeded him in 1926. The school began with 14 full-time teachers and 88 students. At the close of the school last June there were 36 full-time teachers and 625 students. The Regents have issued 2,098 degrees to graduates from your department.

Indeed, you have had a long wait for a suitable building. Now the money is in hand and the work is on the way. I voice the wish of the Regents when I say they appreciate your patience, and the splendid work you and your associates have done laboring to carry on in eight separate buildings, and required to move from building to building such class helps as charts, maps, and other equipment. Having builded your department so well under such drawbacks, the Regents are glad you will hereafter have a home of your own. And if you are to make good in the future all the promises you have made to get this new home, the Regents will expect you and your associates to get up early, work late, and throw your soul into your great adventure.

May this admonition soak into this stone to warn you and those who come after you of the example you and your associates shall establish.

REALLOCATION OF OFFICE SPACE

The completion of Vincent Hall in 1937-38 freed the space most recently occupied by the School of Business Administration in Eddy Hall. As soon as necessary remodeling has been completed, the following changes in location of offices will be made:

Broadcasting quarters for WLB from Electrical Engineering Building to enlarged quarters on the ground floor of Eddy Hall.

Offices of the Alumni Association and the Alumni Weekly from the Administration Building to Eddy Hall; and the office of the Alumni Directory from Northrop Memorial Auditorium to Eddy Hall, adjoining the other alumni offices.

The University Testing Bureau from Northrop Memorial Auditorium to Eddy Hall.

The University WPA offices from Northrop Memorial Auditorium to Eddy Hall.

The University Committee on Educational Research from the basement of the Library to Eddy Hall.

The offices of the director of the Summer Session and the News Service have been shifted within the Administration Building.

Additional office space for the Department of Political Science has been provided in Eddy Hall, and also the office for the newly appointed co-ordinator of personnel activities.

Quarters for the administration of the university land fund will be provided in the Administration Building.

Additional space will be made available in Northrop Memorial Auditorium for the University Art Gallery.

HYDRAULIC LABORATORY

Construction by the Works Progress Administration for the University of Minnesota of a large hydraulic laboratory of unusual design was completed in 1937-38 on the Mississippi River at St. Anthony Falls. The site is on Hennepin Island, a point about a mile upstream from the Main campus of the University, on the eastern side of the river in the heart of the Minneapolis milling district.

This site is interesting historically. One of the early sawmills on the Mississippi River was located within the bounds of the present con-

struction operations; heaps of sawdust, as much as ten feet deep, had to be excavated in order to locate a foundation for the new plant. In the progress of the excavation heavy masonry walls were removed of which there are no available records. The water rights attached to the property are of the earliest priority at St. Anthony Falls, being first used for the sawmill. The rights were later acquired by the city of Minneapolis to provide the power for operating a water turbine directly connected to a pump delivering water for a municipal supply on the east side of the river. Because of the increasing contamination some thirty years ago, this so-called East Side Pumping Station was withdrawn from the city's water works.

As a result of action by the state legislature and the city of Minneapolis in 1937-38, the site of the laboratory and the water rights attached to it were transferred to the University. Additional rights were made available by the St. Anthony Falls Water Power Company. There are about 225 horsepower and a head of 48 feet available at all times for use in the new laboratory. An especially long horseshoe-shaped weir constructed above the falls provides close regulation of the elevation of the water surface. Facilities have been provided that will permit handling rates of flow through the laboratory in excess of 135,000 gallons per minute.

The laboratory will be used to carry on research in many fields of hydraulics and to train graduate students in the technique of hydraulic research; it will also be used for demonstrational work for undergraduate hydraulic students.

The structure was designed to provide facilities for an especially wide variety of hydraulic research. For the purpose of description, the laboratories may be divided essentially into five units: the main experimental laboratory, the hydraulic machinery and pump laboratory, the turbine testing laboratory, the large-scale volumetric measuring basins, and the auditorium and administration rooms.

The main laboratory.—The main experimental laboratory is approximately 300 feet long and 45 feet wide. It is two stories high and contains three large channels extending the entire length of the structure. One is an overhead flume 8 feet wide and 9 feet deep connected directly with the headwater pool above the falls, and this is provided with numerous offtakes to supply water for various experimental projects. The others are low-level channels below the level of the main floor. Of these, one is a wasteway and the other an experimental flume arranged for a wide variety of experiments. The latter is 9 feet wide and 6 feet deep and is supplied with water directly from the upper pool of the Mississippi through a pressure tunnel. Enough head is available to put water through the flume at a rate of about 35 feet per second for shallow depths. A towing car will make it possible to tow current meters and model ships through the flume with the water either at rest or in motion. The large channel is concrete lined except for a section about 20 feet long which is constructed of steel framework so arranged that glass walls and a glass bottom can be inserted at any part or throughout the length of the section. An observation pit has been provided so that one can observe flow from the bottom and side of the stream of water and also

provide illumination from below to make possible clear visual definition of flow conditions.

On the mezzanine floor of this section of the building arrangements have been made with the United States Engineer Department for the construction of a working model for the navigation development of the Mississippi River in the vicinity of St. Anthony Falls. This model will be a replica of a stretch of the Mississippi River in which studies will be made of the final design for the proposed eight-million-dollar development for an upper harbor at Minneapolis. The model is to be constructed to a scale of 1:50, that is, one foot in the model will correspond to fifty feet in the prototype, and it will doubtless result in various improvements and economies in the tentative design for this development.

It will be possible to install a large water tunnel for making experiments on submerged bodies such as model submarines, various types of aircraft models, wind resistance on automobiles, etc. Although here the fluid medium will be water in all cases, within certain limits the results can be transferred to conditions for air and other fluid mediums. Precise measurements of the flow through this channel as well as through other pieces of equipment in the laboratory are made possible by means of the large volumetric tanks just outside of the main laboratory.

The machinery and pump laboratory.—The hydraulic machinery and pump laboratory also has a clear height of two stories and is 34 feet wide and 125 feet long. It will be provided with an overhead crane. At one end below the pump testing floor there is a penstock shaft about 20 feet square and 30 feet deep; the shaft provides a means for bringing water from the overhead channel to the turbine testing laboratory, the floor of which is about 46 feet below the headwater pool. In this section of the laboratory experiments will be made on the characteristics of various types of pumps and hydraulic machinery. The shops for constructing experimental apparatus and the central heating plant are situated here.

The turbine laboratory.—The turbine testing laboratory adjoins the pump laboratory but is at a lower level. It is of irregular shape in plan; two sides are formed by the limestone ledge of St. Anthony Falls. Water once flowed over this ledge. Thus the turbine laboratory is at the base of the falls; it is approximately 60 feet long and 75 feet wide. A tailrace channel traverses the length of the laboratory beginning at the penstock shaft (within the pump laboratory) and extending to the tailwater pool forming the lower level of St. Anthony Falls.

The measuring basins.—The volumetric measuring basins are constructed with their bottoms just above the tailwater pool. They are so located that the flow from all laboratories except the turbine testing laboratory can be intercepted and measured. A central control house is arranged to operate large cylindrical valves in a diverter system at the entrance to the basins and also in the basins themselves. Recording and indicating gages are located in the control house which is at such an elevation that all operations can be observed from this central point. The measuring system is designed to handle a continuous flow up to about 300 cubic feet per second.

The auditorium.—Immediately above the hydraulic machinery and pump laboratory is a floor housing the administrative offices, drafting rooms, and an auditorium. The latter is so arranged that large quantities

of water can be handled readily at the lecture platform in various types of demonstrational experiments. Below the lecture platform is the main overhead supply flume of the laboratory while above the lecture platform is a head control room containing a constant-level reservoir which is in a tower above the auditorium. Water can be circulated in large quantities through the fore part of the auditorium so that a wide variety of experiments can be performed in connection with lectures. Adjoining one side is an apparatus room arranged to house the various pieces of demonstrational equipment, thus allowing for a complete removal of apparatus from the auditorium or the interchange of equipment as required for lectures in different fields of hydraulics.

Other features.—Immediately adjoining the fore part of the auditorium and on the side opposite the equipment room there is a shaft extending from the main laboratory floor to the tower. This shaft contains a stairway permitting access to the various floor levels of the building; it is also used as a pipe shaft to bring water to the various levels. Experiments will be performed here on multistoried plumbing fixture set-ups, well pumps, and other projects requiring appreciable vertical height.

Measuring from the turbine laboratory level the structure is six story levels high although these levels are not all directly over one another. The main laboratory floor is on a ledge at the brink of the falls, the turbine testing laboratory main floor two levels lower, and the administrative and auditorium level two stories higher. The total floor space is roughly 45,000 square feet and extra space can be provided by adding mezzanine floors in various parts of the laboratory.

A service tunnel used for bringing in a fresh-water line from a city main and for disposing of sewage extends from a shaft within the laboratory to the adjoining mainland. The entire structure is built primarily of reinforced concrete and stone quarried from the construction site. Access to the plant is by a roadway which bridges over the headrace to an adjoining power plant and also over the roof of the main experimental laboratory, down a ramp to the main laboratory about 20 feet below the headwater pool.

In this laboratory the University possesses facilities for hydraulic research and study that are unparalleled in this country.

ENGINEERING RESEARCH LABORATORY

A general research program of importance to Minnesota and the Northwest will be carried on in the University's new experimental engineering laboratory at the corner of Oak Street and University Avenue, Minneapolis. The buildings which formerly housed the Minneapolis plant and offices of the Caterpillar Tractor Company were acquired by the University and during the biennium have been completely remodeled into modern engineering laboratories. This work was done as a Works Progress Administration project. There are 77,000 square feet of floor space and the size of the quarters will make possible several large-scale research projects which could not have been attempted in any other building space available on the campus. Laboratories, offices, and conference

rooms for about one hundred men and space for twenty to thirty experiments are provided in the building.

Attack upon several major research problems already has been started. Two of these projects include the development of methods of manufacturing hydrogen gas from lignite in commercial quantities and experiments with manganese ore. With one billion tons of lignite estimated to be lying unused in Minnesota and the surrounding area, this research may have considerable significance in the future. Both projects are being carried on by the Northwest Research Institute under the direction of Dr. L. H. Reyerson.

Another problem has a direct bearing upon the building industry in the Northwest and is of interest to home owners. Under the supervision of Professor Frank B. Rowley, director of the Engineering Experiment Station, studies on the effects of moisture condensation within building walls in cold climates are being carried on. To study the effects of such condensation a temperature control room 30 feet square and 25 feet high has been constructed in the laboratory. Through the use of refrigerating machinery it is possible to reduce the temperature inside this room to 30° below zero.

Small "test houses" of different types of construction and containing various insulating materials are then built within the room and the air inside them tested and humidified as it is for air-conditioning systems. This gives the same condition for the formation of moisture in test walls as would be found in a regular dwelling in Minnesota. Thus various types of building materials, methods of construction, and air conditioning can be studied.

A railroad test room large enough to house an entire railway refrigerator car or passenger coach also is being built within the laboratory, and will be used to study large-scale refrigeration or air-conditioning problems.

Construction of a wind tunnel with a "throat" 7 feet high by 10 feet wide for airplane experimentation also has been completed. This will be employed to test various types of airplane or streamlined automobile construction under conditions ranging up to 100 or more miles per hour. A huge propeller driven by a 400-horsepower gasoline engine will furnish the air stream through the tunnel.

Airplane engine test rooms where motors can be studied under conditions approximating those in the air have also been included in the new building.

Another feature will be an automobile "dynamometer." This consists of a moving platform, or continuous belt, which moves under the car, having the same effect as if the machine were traveling over a road. Its speed and the pull on the motor can be recorded, and with temperature control also operating in this room, experiments can be set up to study lubrication and starting systems under 20° below zero weather conditions. These experiments are supervised by Professor B. J. Robertson.

The concrete laboratory in the building has three temperature and humidity control rooms. Here it will be possible to control humidity through any range from zero upward. Studies in the effect of freezing and thawing on concrete structures already are under way in this de-

partment under the direction of Professor C. P. Hughes of the Engineering Experiment Station. This is another of the major building problems of northern climates.

PSYCHOPATHIC HOSPITAL

The new psychopathic unit of the University of Minnesota Hospitals was opened in April, 1937, and the physical plant has proved satisfactory for the purposes for which it was constructed: teaching, clinical service, and research in neuropsychiatry.

Teaching.—The teaching of medical students has been greatly improved in the field of psychiatry through the availability of clinical material for demonstration. It is a matter of satisfaction to observe the interest in psychiatry that has been aroused in the students and the rapidity with which they gain orientation and perspective in this field. Already there are registered in the field of graduate teaching three young physicians who are working toward an advanced degree in the specialty of neuropsychiatry.

Student nurses are rotated through the psychopathic unit where they learn nursing procedures that are effective in the care of psychiatric patients. They are given an understanding of the hazards involved in the care of psychiatric patients. They are taught the connection between the development of mental states and underlying diseases of the brain and other organs. A program is being developed for the orientation in the field of neuropsychiatry of students in sociology.

Service.—Taking the in- and out-patient departments together, between 1,500 and 2,000 new patients were met, diagnosed, and treated for neuropsychiatric conditions by the staff from July 1, 1937 to June 30, 1938. Co-operation between the new unit and the state hospitals, the courts, the county, and other social agencies, and the penal institutions has already reached a gratifying level. From all over the state cases have been referred to the unit by courts. The state hospitals for the insane have made use of the general hospital facilities that are available to patients in the psychopathic hospital with the result that the unit has been of service in meeting unusual surgical and medical emergencies. The State Bureau of Criminal Apprehension has also referred cases to the unit. The social agencies throughout the state have requested and received advice concerning professional care for cases under their observation. Private physicians likewise have referred large numbers of indigent patients to the unit for help in the solution of particularly difficult psychiatric and medical problems.

Research.—Research in the neuropsychiatric field has been prosecuted with vigor in spite of the many incidental duties that the staff has had to carry in connection with setting up and organizing the service and the teaching functions. Important work from the staff is already in print on the changes in the brain that occur with the insulin treatment of dementia praecox. Too little appreciation has hitherto been had of the possible ill effects of this kind of treatment. One member of the staff is studying the sleep mechanism of normal and psychotically disturbed individuals. Through his studies improvements may be expected in the

treatment of sleep disturbances which loom so large among patients of this sort. These studies will also have wide applications in the fields of medicine and surgery in general. Still another member has devised a method for the investigation of the disorders of speech which will be of extreme importance in gaining an understanding of individuals who lose one or another part of their speech mechanism. In fact, there is no one on the staff at present who is not actively carrying forward some important research problem in the field of nervous and mental diseases. Studies of this sort should not be measured for their immediate practical effect but rather in the light of the ultimate improvement in medical practice which they will make possible.

The new unit has been inspected by distinguished visitors in the neuropsychiatric fields from many parts of the United States and Canada and from several foreign countries, and most laudatory comments have been received.

Support.—The original request of the legislature for an annual appropriation of \$75,000 for the support of the Psychopathic Hospital was based on conservative estimates after comparison with similar units elsewhere. This was cut by \$12,500 to an annual appropriation of \$62,500 and resulted in a constriction of the service in order to meet budgetary limitations. This in turn has increased the per diem cost of patient care though even now the cost is below that which is usual in other similar units. Not only has a reduction in service been necessitated by this stringency; it has also meant a decrease in efficiency of the unit for the purposes of teaching and research. It is earnestly hoped that the original estimate of \$75,000 annually as a reasonable amount of money on which to run this in- and out-patient service will be allowed by the 1939 Legislature.

MINNESOTA UNION

The movement for the construction of a new Minnesota Union gained impetus during the biennium.¹ The following chronological tabulation shows the steps that have been taken toward providing more adequate social and recreational quarters for the men and women students at the University:

1935-36.—Student and faculty organizations on the campus merged their interests in obtaining a new Minnesota Union Building, and carried to President L. D. Coffman a request that the University give full consideration to the needs.

July, 1936.—The president appointed a survey committee representing all the interests involved—Union Building, WSGA, All-University Council, Minnesota Daily, Faculty Women's Club, Campus Club, Comptroller, Architecture, News Service, Alumni Weekly, Service Enterprises, Engineers Bookstore, citizens at large—to visit institutions in the Big Ten where adequate Union facilities were available and requested them to report their findings.

September, 1936.—The committee inspected Unions at Ames, Iowa (Iowa State College), Iowa City, Iowa (State University of Iowa), Lafayette, Indiana (Purdue University), Bloomington, Indiana (Indiana University), Ann Arbor, Mich. (University of Michigan), and Madison, Wis. (University of Wisconsin).

¹ Shortly after the close of the biennium, but before this report actually went to print, a grant from the Public Works Administration assured funds for the structure.

September 10, 1936.—A complete report was filed with President Coffman.

October 7, 1936.—A meeting was held with representatives from campus groups present, and the report of the survey committee was discussed.

November 6, 1936.—At a meeting of the Alumni Board and the Alumni Advisory Committee, the following resolution was adopted:

In view of the fact that the present Union Building was erected in 1890, forty-six years ago, that it is outgrown and outmoded, and that Shevlin Hall for women no longer meets the needs of the women students, it is apparent to the alumni that steps should be taken to remedy the situation.

For some time this need has been voiced by the student body. Last spring the President of the University appointed a committee to study the matter. This committee visited other institutions in the mid-west where union buildings have been erected within the past ten or fifteen years. They found that Iowa State College, State University of Iowa, Purdue University, Indiana University, University of Michigan, and University of Wisconsin were far ahead of us in the facilities which those institutions offer for the furtherance of wholesome student activities and the centralization of their social programs and came back fully convinced that Minnesota has lagged way behind in these matters.

Now, inasmuch as this is a real need, that practically every student organization on the campus has passed resolutions requesting that proper steps be taken to erect a new Minnesota Union Building, even though it involve an increase in their own fees,

Therefore, Be It Resolved, by those present representing the Alumni Board and the Alumni Advisory Committee that it be the sense of this gathering that the students be supported in their petition and that we herewith pledge our aid to the project.

December 1, 1936.—At a meeting of the Greater University Corporation it was unanimously voted to proceed as rapidly as possible to bring the project to a successful completion, and a committee was appointed to consider procedures.

December 19, 1936.—The Board of Regents formally approved the erection of a new Union Building and determined its location at the south end of the Mall, across Washington Avenue. Authority to proceed with plans was given, and methods of financing were discussed.

January 14, 1937.—A meeting of the Greater University Corporation was attended by representatives from interested campus groups. Active support was pledged by each organization present and the Greater University Corporation agreed to undertake the raising of funds if federal PWA support were given.

January to March, 1937.—The architects developed plans for a building estimated to cost \$1,899,640.

March 16, 1937.—Application for a federal Public Works Administration grant of 45 per cent of total cost of building was filed with the state administrator of public works.

April 7, 1937.—Final plans and revised estimates were approved by the state office and forwarded to Washington.

August 31, 1937.—The application for the PWA grant was denied because the federal act covering the distribution of new government appropriations restricted aid to:

- a. Projects for which bonds had been issued or were to be issued.
- b. Projects covered by legislative appropriations.
- c. Grants for completion of school projects which will eliminate crowded or hazardous conditions.

May 16, 1938.—After a period of relative inactivity, largely because of the absence of President L. D. Coffman, the Union Building project was revived. Fed-

eral and state PWA officials met with Acting President Ford and other university officials to consider the possibilities of renewing the application for a PWA grant. There were encouraging signs that a grant might be made from new federal appropriations.

June 13, 1938.—The Board of Regents voted to make PWA application for approximately \$900,000 (45 per cent of the Union Building cost) to insure the erection of the building. As a guarantee of the 55 per cent to be provided by the University, the Regents had on hand through accrued earnings of service enterprises and from athletic funds, a total of \$450,000, leaving \$650,000 to be provided. The Regents voted to issue certificates of indebtedness for this amount on condition that the Greater University Corporation would undertake to raise the sum by popular subscription.

As the biennium closed the University awaited a report on its application.

The following additional steps after the close of the biennium, but before actual publication of this report, were added to complete the record:

July 28, 1938.—The Greater University Corporation passed the following resolution:

Be It Resolved, That the Greater University Corporation express its willingness to undertake a campaign to raise the money necessary to retire the certificates of indebtedness to be issued by the Board of Regents for the purpose of constructing the Minnesota Union Building on the campus.

September 16, 1938.—Word was received from Washington that \$891,000 had been allotted through PWA funds for the construction of the Minnesota Union Building.

September 24, 1938.—The Regents voted to accept the grant and proceed with plans for carrying out its terms.

DEPRESSION OF WASHINGTON AVENUE

Any long-time plan for the physical development of the Main campus should take into consideration the possibility of eventually depressing Washington Avenue from the east end of the Mississippi River bridge to some point beyond the campus. By lowering the avenue one of the serious traffic problems of the campus would be solved, hazards to students in crossing the avenue would be eliminated, and additional building space would become available that is not now desirable because of the noise of traffic. The Board of Regents in 1937-38 gave informal consideration to this matter, and heard a presentation of the problems involved by Arthur R. Nichols, of Morrell and Nichols, Inc., landscape architects. The need for reconstructing the Washington Avenue bridge makes such discussion highly pertinent.

NAMING OF CAMPUS BUILDINGS

The responsibility for studying suggestions and making recommendations with respect to the naming of campus buildings is vested in a special committee of the Administrative Committee of the University

Senate. This committee, as occasion demands, makes its studies and then forwards its recommendations to the Administrative Committee. If approved there, the proposed names are then brought to the Board of Regents for final action.

During the biennium names have been given to six campus buildings:

1. Cooke Hall, for the Athletic Building
2. Eddy Hall, for the building most recently occupied by the School of Business Administration
3. Green Hall, for the new forestry building on the Farm campus.
4. Louise M. Powell Hall, for the nurses' home
5. Harry Snyder Hall, for the biochemistry building, Farm campus
6. Vincent Hall, for the social science building on the Mall, the first unit of which is now completed and occupied by the School of Business Administration.

Brief biographical sketches of the five men and one woman thus honored follow:

Louis Joseph Cooke, M.D.—Dr. L. J. Cooke, University of Vermont, 1894, was appointed director of the University of Minnesota Gymnasium in 1897. He was in the service of the University continuously from that date until his retirement in June, 1936, and held these positions:

Gymnasium director, 1897 to 1913

Associate professor and physical director for men, 1913 to 1922

Associate professor and assistant director of the Department of Physical Education and Athletics, 1922 to 1932

Professor of physical education and athletics for men and assistant director of athletics for men, 1932 to 1936

Dr. Cooke organized the Department of Physical Education for Men, and in the earlier years he served as coach of all the athletic teams with the exception of football. It was he who introduced the game of basketball to the University campus and he served as basketball coach for twenty-eight years. Through the greater part of his thirty-nine years of service in the University he was medical examiner for entering students and director of ticket sales for athletic contests. Through these activities and as coach he made many contacts. His genial disposition, jovial nature, and refreshing outlook upon life have endeared him to all who have come in contact with him, and it is doubtful if there are many other persons in the University who are better known or more affectionately regarded than he. He retired in June, 1936.

Henry Turner Eddy.—Henry Turner Eddy was born in Stoughton, Massachusetts, June 9, 1844. At the age of twenty-three he received the bachelor of arts degree from Yale University and two years later Yale conferred upon him the degree, master of arts.

In 1870 Mr. Eddy was awarded a degree in civil engineering by Cornell University and two years later Cornell conferred upon him the degree, doctor of philosophy. For a period of two years he studied in Europe, the first year at the University of Berlin and the second year at the Sorbonne and the Collège de France. In 1892 Center College conferred upon him the LL.D. degree.

Immediately after graduation from Yale, Dr. Eddy entered upon his active academic life as an instructor. In this capacity he served at Yale University, the University of Tennessee, Cornell University, Princeton University, and the University of Cincinnati, where he was also dean of the Arts College, and later acting president and president-elect. He also served for three years as president of Rose Polytechnic Institute.

In 1894 Dr. Eddy came to the University of Minnesota, where the most creative years of his distinguished career were to be spent. He served as professor of engineering and mechanics from 1894 until his retirement in 1912. He died December 11, 1921.

Professor Eddy was the first outstanding influence in the field of mathematical physics in this University. During his time here he was the central figure in this

field and advanced students found in him an ever ready guide, inspiration, and help. Indicative of his scholarly interest is the fact that during a period of about ten years he came weekly to the Department of Physics and led a group in the study of the newer developments in the fields of physics and chemistry. It is eminently fitting that the building in which his work was centered, then known as Mechanic Arts, should bear Dr. Eddy's name.

Dr. Eddy was also the first dean of the Graduate School at the University, and the perpetuation of his memory by naming a building for him accordingly has twofold significance.

Samuel B. Green.—The name of Samuel B. Green will always be identified with the development of systematic instruction in the field of forestry, not only in Minnesota but in the country as a whole.

Professor Green was a graduate of Massachusetts Agricultural College. He came to the University of Minnesota as professor of horticulture in 1888. It was in this position that he assumed responsibility for work in forestry, and by 1896 he had developed a series of systematic forestry courses. In 1899 the first student completing these courses was graduated from the University of Minnesota. This was a year before Cornell University granted the first professional forestry degree in America.

Out of his studies and his courses came one of the first books on forestry to be published in the United States. This was *Forestry in Minnesota* which Professor Green issued in 1898. In 1902 he published *Principles of Forestry*, a book that was a landmark in forestry education.

For many years Professor Green served on the state forestry board and in 1907 he secured permission from the board to establish a summer forestry field station in Itasca Park, an innovation that demonstrates his farsightedness. Of no less importance was his success in 1908 in persuading the St. Louis River Mercantile Company, Cloquet, to give to the University an area of land for a forest experiment station. Professor Green died June 11, 1910.

The Division of Forestry at the University of Minnesota, the Itasca Station, and the Cloquet Forest Experiment Station are the direct results of Professor Green's efforts, courage, and ingenuity. His achievements are all the more significant because he had few, if any, precedents to follow and because forestry was beyond his own field of specialization, horticulture. In both fields Professor Green blazed new educational trails.

Louise M. Powell.—Louise M. Powell was born in Staunton, Virginia. She graduated from St. Luke's Hospital, School of Nursing, Richmond, in 1899. She later did special work at Teachers College, Columbia University, and received a special diploma in 1910. She came to the University of Minnesota as superintendent of the Training School for Nurses in that same year, and began a career that had a marked influence upon nursing education here and throughout the United States. In 1922, with the growth in nursing education at Minnesota, she was given the title of associate professor and director of the School of Nursing. She left the service of the University of Minnesota in 1924.

Miss Powell was a capable administrator, a fine instructor, and a woman of the highest type. She set a standard of nursing and nursing education which became the pattern for schools all over the United States. Recognition of her distinct services to the nursing profession by naming a Minnesota building in her honor will be met with approval, not only in this state, but all over the country.

Harry Snyder.—Harry Snyder came to the University of Minnesota in 1891 and continued as a biochemist in the Agricultural Experiment Station and professor of agricultural chemistry and soils until 1909. He was one of the pioneers in America to lay a broad and deep foundation in the field of agricultural chemistry, and he ranks with such men as Armsby of Pennsylvania State College, Hilgard of California, Johnson of Yale, Babcock of Wisconsin, Cyril Hopkins of Illinois, and Fraps of Texas. Much of the modern development in agricultural chemistry has been laid upon the foundations which these men built and not the least among these men is Harry Snyder. While at the University of Minnesota, Professor Snyder published twenty-seven bulletins in the Agricultural Experiment Station covering a wide field of interest including soils, plant nutrition, composition of animal feeds, milling and baking, and human nutrition.

Professor Snyder focused his attention particularly on cereal chemical problems, and his publications are still cited as important pioneer contributions in the field of cereal chemistry and cereal technology. For many years he was associated with the United States Department of Agriculture as a collaborator, and some of his more important publications were released as bulletins of the United States Department of Agriculture although the work was carried out in the laboratories of University Farm. These contributions dealt with the problems of human nutrition, and here again he was a pioneer and laid a broad and deep foundation. Today many of his publications are still standard and represent the best data available in the particular phase of the problem with which he worked. His studies of the digestibility and nutritive value of wheat, bread, macaroni, and other wheat products published in the period from 1899 to 1905 received international recognition, and no publications in that field of a later date have modified to any appreciable extent the conclusions which he reached. Practically all of these studies were published as contributions from the United States Department of Agriculture.

Professor Snyder was not only an investigator with a wide interest in the various fields touching upon agricultural chemistry, but likewise he was an inspiring teacher, and many of the men who worked with him have made notable contributions to the field of agricultural chemistry. It is fitting that the University of Minnesota should recognize the contributions which Professor Snyder made by naming after him the building that houses the Division of Agricultural Biochemistry.

Professor Snyder died October 11, 1937.

George Edgar Vincent.—George Edgar Vincent was the third president of the University of Minnesota and served from 1911 until 1917, when he resigned to accept the presidency of the Rockefeller Foundation. Until the action of the Board of Regents naming the social science building on the Mall in his honor, he was the only past president of the University for whom no building had been named. The choice of a building that houses units of the social sciences is especially significant, since Dr. Vincent's interests have centered heavily in the social sciences. He was a fellow in sociology at the University of Chicago as far back as 1892, and his volume *Introduction to the Study of Society* (written with Professor Albion W. Small of the University of Chicago) was one of the first textbooks in the field. In naming the building Vincent Hall the University thus honors its third president and also a man who was a pioneer in fields of scholarship in which this University, in part under his leadership, has forged ahead to high distinction.

USE OF UNIVERSITY BUILDINGS

Confronted with the problem arising through many requests by non-university groups to use university buildings for their own purposes, the Regents in 1937 adopted the following statement of policy covering the use of university buildings:

The University of Minnesota is a publicly supported institution of higher education, maintained by the people of the state to further the educational and cultural opportunities of the citizens without respect to political faith, race, or creed, and to contribute to the advancement of the general welfare through research. Education broadly conceived is the fundamental purpose and responsibility of the University and to this end its staff members direct their efforts. Contributing to this primary purpose and erected solely to further it are physical plant facilities consisting of the many buildings that house the various educational activities that are initiated and developed by the University. These buildings are of many types and adapted to a wide variety of purposes, some of which are specialized, as in the case of libraries, laboratory buildings, the stadium, and the like; and others which are

adaptable to more general use, such as classroom buildings, auditoria, etc. Regardless of the uses to which the University buildings may be put, all of them were conceived and planned with the immediate needs of the institution and its educational program in mind. The one justification for the extension of the physical plant has been that of enabling the institution to do its broad educational task more effectively.

Because the buildings of the University are requisite to the educational activities and designed to house them, specific underlying assumptions are made with respect to their use. They are at any and all times available for purposes which the University itself develops as a part of its own educational program. Such use constantly extends beyond that associated with the courses of instruction. It may and does include programs that contribute to the physical and cultural development of the students supplementary to the formal course work. The University, through its departments, invites lecturers to come to the campus; it provides opportunities to hear good music, to see fine examples of art, and in many specific ways it stimulates the intellectual and emotional life of the students. All such extra-classroom activity is a definite part of the educational program. The people of the state are invited to share in many of these advantages and do so.

It is not in connection with such educational programs that questions arise concerning the use of the buildings of the University; rather, it is in connection with the desire of and request by non-university groups to come to the campus and use the facilities to house programs or activities which they themselves have initiated. The University appreciates the fact that its buildings are sometimes more adequate for specific purposes than are other buildings that may be available. At the same time, it reiterates its basic assumption that the buildings were designed for the educational uses of the University and not for general use.

There are circumstances in which the purposes of non-university groups coincide with those of the University itself. In such circumstances non-university groups have been invited to the campus because of the contribution that might be made to the University's own programs. In all such cases, however, the groups are present only by invitation of the University and under its immediate and actual sponsorship. One may cite as illustrations the invitations extended by the University to various professional academic groups (such as the American Association for the Advancement of Science), to groups in which the University as an institution holds membership, to such organizations as the Minneapolis Symphony Orchestra (which is presented by the University), to the high schools of the state in connection with the state music contest or the state basketball contest—both of which activities are part of the educational programs of public schools of Minnesota and are also closely allied to the educational programs of the University. The appearance of such groups on the campus is always conditioned by agreements, basic in which is the provision that all pertinent details are arranged by the University or subject to its formal approval.

In order that there may be a clarification of the policy governing the use of university facilities, these principles are enumerated:

1. The University of Minnesota will not under any circumstances permit the unrestricted use by non-university groups of any of its facilities provided for the furtherance of its educational functions.

2. The University, by the very nature of the functions for which it exists as a publicly supported institution of higher education, cannot enter into joint sponsorship of any project or program that is to result in profits or private gain for the cooperating group or groups.

3. The University, established for the benefit of all the people of the state without regard to political faith, race, or religion, cannot be a joint sponsor with any non-campus organization for any political, racial, or sectarian gathering.

4. Whenever non-university groups share in the use of university buildings, it must be upon invitation of the University and under joint sponsorship, with the further understanding that all of the conditions governing that sponsorship are to be set by the University.

5. The University, upon entering into joint sponsorship of any program or activity, assumes the full responsibility for all details, such as setting of hours, selling of tickets and pricing the same, supervision of buildings, etc. It reserves the right to approve all copy for advertising as well as all news releases.

6. The University will not enter into joint sponsorship of any program or activity in which the educational implications are not self-evident, and which does not directly supplement the educational purposes of the University.

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GRANT FOR EDUCATIONAL MOTION PICTURES

A grant of \$122,260 from the General Education Board was accepted by the Board of Regents on December 17, 1937, to be expended in a three-year experimental program to develop motion pictures in the field of general education. Within a generation the motion picture has risen from a crude and curious toy to the state of perfection that has made it an instrument of entertainment for the entire population. Less rapid has been the growth of the motion picture as an adjunct of education. Yet the potentialities of the motion picture as a supplement to the teacher at all levels of instruction are clearly apparent. It remains to develop the film for teaching purposes. It is to further such development that the grant of the General Education Board was made.

The University of Minnesota has for several years occupied a leading position in the field of visual education. When, in 1932, the General College was established, the various visual aids (slides, motion pictures, and other types of illustrative material) were considered necessary and often indispensable tools of efficient instruction. A visual education program was set up in the General College, and so quickly did this establish its worth that the demand for visual aids grew rapidly and expanded throughout the campus. The growth of this program was traced in the biennial report for 1932-34. The present grant of funds comes as a further step in the development of the University's visual education project, and is especially important because it makes provision for the actual production of films. Educational needs of the classroom differ from recreational needs, and films entirely suitable for entertainment or commercial showing may not be fully adapted to the needs of the school-room or the college classroom.

Fundamentally the purpose of the new project is to experiment with various methods of presenting the concepts of general education through the use of sound motion pictures. The objectives of the classroom are to be integrated with the possibilities for instruction that the motion picture offers. It will accordingly be necessary to make new films with specific educational purposes in mind. Such films are already being planned.

One film will deal with the state of Minnesota, its history, its natural and human resources, for teaching purposes in the socio-civic area of general education; another will be for use in the vocational area to aid in problems of vocational orientation; all of them will be integrated with the curriculum of the General College. Throughout the course of their production, sequences and versions of these films will be tried out in General College classrooms, evaluation techniques will be set up, and teaching methods, content, and educational values will be tested and determined by the General College staff and the Visual Education Service.

Preparatory to the production of the educational films, Professor Robert A. Kissack, Jr., director of the project, and three assistants from his staff spent several months during 1937-38 in Hollywood and New York studying all phases of current motion picture production techniques. This period of study was financed by the General Education Board.

FLOYD B. OLSON MEMORIAL FUND

An appropriation of \$25,000 was made by the Legislature during its special session in 1937 to establish at the University a Floyd B. Olson Cancer Memorial Foundation. The legislature provided "that the foregoing appropriation shall be invested and reinvested by the Board of Regents of the University of Minnesota and the income therefrom shall be used for the care, study and treatment of cancer." It was also provided in the act "that the foregoing appropriation may be supplemented with any moneys or gifts granted by the Governor Olson Memorial Committee." Within the next year there will be some income from this legislative fund and it will be applied on cancer research. It is to be hoped that additional gifts will be made to the fund in the years ahead so that an income will be provided for the support of a significant program which will serve as a fitting memorial to former Governor Olson.

FELLOWSHIPS FOR CANCER STUDY

Recognizing the eminence of the University as a center of medical research, fellowships—up to five in number—have been provided by the National Cancer Institute for the purpose of training physicians here in the diagnosis and treatment of cancer. The announcement of these fellowships was made in 1937-38 and the first appointments will be as of July 1, 1938. Holders will remain at the University for at least two years.

The National Cancer Institute was established by Congress in 1937. The creation of the fellowships is one aspect of its program. Holders of these fellowships will be assigned to institutions in various parts of the country where the facilities for the investigation of the disease and the training of specialists are outstanding. The fellows that are to come to the University of Minnesota will be selected by the National Cancer Advisory Council of the United States Public Health Service, upon the recommendation of a university committee. They must be prepared to devote themselves to clinical work and treatment of cancer during their training period, must be under forty years of age and be graduates of an approved medical school.

Present plans at the University favor reserving the facilities for cancer training for younger doctors who have had basic training in pathology and surgery, or roentgen diagnosis and therapy. The plan is to take men who have had good surgical training and give them a year divided between pathology, the tumor clinic, and the hospital, with a second year spent on roentgen training, pathology, and the tumor clinic. An alternative may be to select men who have training in pathology and roentgenology and plan for them a program covering three years of surgery.

The University of Minnesota's facilities for training physicians in the investigation of cancer are rated highly. Establishment of a Cancer Institute several years ago, a section of the University of Minnesota Hospitals which has been admitting seven hundred patients annually, provides a firsthand opportunity for the study of the disease. In addition, a tumor clinic in the outpatient department of the hospital for patients with cancer of special clinical or scientific interest also is maintained. During the

biennium this clinic has received three thousand visits annually of which from five to six hundred are visits by new patients.

Another feature is the excellently equipped radiation therapy facilities with machines for deep and superficial therapy and a pathological department which receives pathological specimens of interest for study from Twin City hospitals.

CHILDREN'S PSYCHIATRIC CLINIC

Two generous gifts in 1937-38 have made it possible for the University to establish a Children's Psychiatric Clinic. Both gifts will be spread over a period of five years. From the Commonwealth Fund, New York, a grant of \$75,000 has been received; and from the Stevens Avenue Home for Children and Aged Women, Minneapolis, a gift of \$50,000. By combining these resources the University can establish within its Medical School a teaching service and a research unit that should prove of inestimable value to the state. This adequately staffed unit will begin to function on July 1, 1938.

These gifts make possible an expansion of the teaching and research program in psychiatry by an extension of it into the period of life in which the great majority of mental disturbances have their origin. This childhood period is also the one in which most can be done to correct mental disturbances before they become advanced and fixed. The teaching program will add to existing opportunities for psychiatric training of medical students, and also of graduate students in psychiatry, pediatrics, medical social work, child welfare, home economics, public health nursing, education, and general psychology. On the clinical side, there will be expert consultation service to agencies throughout the state that deal with the problems of children. The program also includes provision for research.

FOOD TECHNOLOGY RESEARCH

Research in food technology under the Hormel Research Foundation will be supported by an annual grant of \$25,000 from George A. Hormel & Company, Austin, Minnesota, packers. The research will begin in the fall quarter, 1938-39, and will be carried on by the Institute of Technology under the direction of a supervising committee of which Dean Samuel C. Lind is chairman. The other members of the committee consist of representatives of the schools or colleges in which research projects are to be carried on, together with a representative of the donors.

Four research specialists holding the doctor of philosophy degree will begin work in the departments of organic chemistry, bacteriology, biochemistry, and botany. In addition, several younger men who have not yet obtained advanced degrees will be employed under the foundation.

Any process of industrial value developed by the research workers will be patented by the University, under the agreement with the Hormel Company, and proceeds will be divided equally between the University and the Hormel Research Foundation. The endowing company may terminate the agreement at the end of any year, and the University may do

so, if it wishes, at the end of four years. Under the terms of the contract the endowing company will bring the research fund up to \$25,000 at the beginning of each year, allowance being made for any unexpended balance that may remain.

The foundation was established for the "Promotion of education and research in the field of food technology." The endowment provided is the largest single grant for research in technological fields received by the University from private sources in recent years.

GIFT FOR ATOMIC RESEARCH

A gigantic generator which will smash atoms and open the way to the broadest scientific study of the atom has been constructed on the campus during the biennium. This unique piece of apparatus now stands directly behind the Physics Building, and by means of its operation it will be possible to produce valuable artificial radioactive elements in sufficient amounts for large-scale research in medicine, biochemistry, plant genetics, and related fields. A grant of \$36,000 from the Rockefeller Foundation will finance the research studies that utilize this new scientific equipment.

By means of this Van de Graaff or Kelvin generator, as it is called, an ordinary chemical element may be made radioactive, which in effect marks or "tags" it so that scientists may trace it to its ultimate destination in plant or animal bodies. It is planned to manufacture these elements in "wholesale" quantities and to prepare them so that they may be transported for considerable distances without losing their radioactivity. Thus they may be sent for medical use to the Mayo Foundation laboratories at Rochester as well as to various campus research centers.

Important studies which may be made with various elements thus made radioactive include, among others, those dealing with circulation time of the blood—a study hitherto impossible by ordinary physical and chemical means, utilization of foods, the passage of solutions through various body membranes, and the assimilation of fats and proteins. This type of study is even more applicable to plants where breeding experiments may be carried on more readily. In the physical chemistry field such studies as the rate of growth of crystals, rapidity of chemical reactions, and related problems may be further carried on.

In external appearance the "atom buster" resembles a large tank standing on end. This pressure tank is built of prefabricated steel capable of withstanding 100 pounds pressure per square inch. No rivets were used in the construction; the tank is entirely arc-welded at the seams to give it strength. It stands 35 feet high with a diameter of 18 feet. Its weight is 40 tons. Beneath the vertical tank there is a working space the diameter of the tank and approximately 10 feet high. Wall thicknesses of the tank are one and one-fourth inches with the "heads" or ends of three-fourths inch steel.

A control room on the basement level of the Physics Building adjoining the base of the apparatus has been built for operators conducting experiments. A six-foot wall of earth and concrete protects those carrying on experiments from radiations emanating from the tank during

operations. These rays are comparable to X rays in their effect on human beings. Practically all of the work will be done from the control room where mirrors and other remote control devices will enable the scientists to see into the tank without exposure to the dangerous rays.

To put the machine in operation air must first be pumped into the tank, furnishing an electrical insulator between the high voltage electrode located in the tank and its outer wall. After the air is pumped into it an electrical spray in the base charged up to 30,000 volts will shoot a charge of electricity upon a conveyor belt which runs to the top of the tank. At the top this charge is removed to an electrode. In principle this part of the operation resembles the conveyor belt of a gravel loader which carries its load to a hopper at the top of the machine and dumps it into waiting trucks below.

As the electrical charge is "dumped" upon the electrode the latter is being charged so that the amount of electricity is continuous at this point. This charge is used to accelerate particles, or the nuclei or "cores" of positively-charged light atoms such as hydrogen or helium. These are formed in an arc similar to that used in arc-welding, an apparatus being attached to the cap at the top of the tank.

The electrical charge accelerates these "cores" or particles down a 20-foot central vacuum tube which in principle is a large radio or X-ray tube. These particles plunge downward toward targets consisting of such elements as a sheet of copper, pieces of potassium, or whatever material is being used in the experiment.

Traveling downward at the rate of one thousand million centimeters or ten thousand miles per second, the particles possess tremendous energy when they strike their destined targets—if they do. Only about one out of every ten million "shots" is a direct hit but when such an impact occurs, the particle consisting of the "core" or nucleus is disintegrated or transmitted into another kind of nucleus. Thus by selecting the proper "bullets" and targets the experimenters will be able to get the kind of artificial radioactive element desired.

In the Physics Department, Dr. John T. Tate and his associates are interested in learning how these nuclei of atoms are built. This is one of the fundamental problems of Nature herself—the searching out of the secrets of these minute structures which may lead to a better understanding of the composition of larger bodies.

PRIVATE GIFTS TO THE UNIVERSITY

In the biennial report of the president of the University it has been the custom to enumerate the gifts which have been made during each of the two years (see pages 169-181). This listing has served as a formal acknowledgment of the sources of the several gifts, the uses to which they have been put, and the gratitude with which they have been received.

This biennium it seems especially fitting to make a broader survey of the gifts which have been made to the University by decades from July, 1851, through the academic year 1937-38.

The accompanying table shows that during the period in review the private gifts to the University total \$13,088,203.89. Of this amount,

\$3,230,333.07 has been given for land, buildings, and equipment; \$7,186,536.53, for research, scholarships, fellowships, loans, prizes, and the like; \$537,754.29, for undesignated educational purposes; and \$2,133,580 for the maintenance of the Minnesota Hospital and Home for Crippled Children.

During the ten-year period, 1920 to 1930, 74 per cent of the aggregate of all of the gifts was received. An additional 14.6 per cent of the contributions was made during the next six years—which included the worst part of the depression—while in 1936-37, 1.3 per cent, and in 1937-38, 4.1 per cent of the entire total of private donations were added to the University's income and endowment funds. By adding these figures it will be seen that the gifts to the University from private sources made during the past eighteen years totaled \$12,306,028.89 and represented 94 per cent of the amount for the entire period since the establishment of the University. Similar data for each decade beginning with 1850-60 may be found in the table.

Some of the larger gifts which have been made to the University during the biennium 1936-38 have been treated separately in another part of this report. By selecting some of the gifts as examples of important contributions which have been made during each of the two years and drawing specific attention to them, it is felt that the public generally may come to a fuller realization of the extent to which significant aspects of the work of the University have been aided by donations.

1936-37.—The sum of \$700 was added to the Law Alumni Loan Fund; the Emil Oberhoffer Memorial Fund of \$5,000 for a fellowship in music, not to exceed \$500 per year, was established; a research grant of \$20,000 for training in public administration was made by the Rockefeller Foundation; a research grant of \$10,000 for a study of the various problems involved in the accumulation of moisture and frost in the walls and other parts of insulated buildings was made by the National Rock and Slag Wool Association; the Northwest Research Foundation made an additional grant of \$15,000 to continue the study of Minnesota resources begun during the previous biennium; and the Carnegie Foundation for the Advancement of Teaching provided an additional grant of \$11,000 for research in art education.

1937-38.—Under the will of Carrie M. Harper, \$5,118.95 was set up as the Josephine Louise Harper Memorial Fund, the income to be disbursed by the University to deserving students; a fund of \$5,000 to be known as the Dr. James W. and Alice B. O'Neil Fund for Deserving Students in Dentistry was established under the will of James W. O'Neil; the Law Alumni Loan Fund was increased by the addition of \$11,504.22; the Carl Schlenker Scholarship Fund of \$9,500 was established under the will of Jessie P. Schlenker; an additional \$3,660 received from the trustees under the last will and testament of La Verne Noyes, deceased, was added to the La Verne Noyes Scholarships; a sum of \$25,000 to be known as the Haydn S. and Mary M. Cole Fellowship was received from Mr. Haydn S. Cole to endow a fellowship or fellowships in the Division of Orthopedic Surgery; the Carnegie Corporation of New York provided a sum of \$4,000 for the support of fellowships in dental research; the Commonwealth Fund appropriated \$16,000 for a study on human growth and developmental structure to be made under the direction of Dr. R. S.

Scammon; \$6,000 was granted by the Rockefeller Foundation for research in the Department of Psychology; the National Rock and Slag Wool Association increased its grant by \$20,000 for research in the field of building insulation; the Commonwealth Fund made a grant totaling \$37,000 for a five-year period, of which \$10,000 was for the year 1937-38, for the use of the Center for Continuation Study in the development of postgraduate medical education at the University; \$10,000 was received from Mrs. Helen R. Dwan to establish and support a serum center in the Department of Pediatrics; the Citizens Aid Society contributed \$7,319 for the purchase of a deep therapy X-ray machine for the Cancer Institute; the General Education Board gave an additional sum of \$81,000 to the General College Fund, \$25,000 of which was for 1937-38 and the balance to be used for the next two years; and an additional grant of \$18,000 was received from the United States Public Health Service to aid in the expansion of the services of the United States Public Health Service Training Center.

These are some of the recent gifts to the University which loom large in their size. During the years of the University's existence other gifts of comparable size as well as smaller ones have come from thousands upon thousands of donors. Some of them may have been necessarily small, such as one or more books for the library; others have been large, perhaps \$100,000 or even \$500,000 and more. The size is not the only important consideration. Merely because an individual is able to provide only a small gift, he should not hesitate to make it. A number of small gifts when taken in the aggregate make it possible for the University to provide for extremely important activities which would be denied to the youth of the state were dependence placed entirely upon the building and maintenance appropriations of the Legislature.

SUMMARY OF PRIVATE GIFTS BY DECADES
July, 1851 to June 30, 1938

| PURPOSE | 1850 to 1860 | 1860 to 1880 | 1880 to 1890 | 1890 to 1900 | 1900 to 1910 | 1910 to 1920 | 1920 to 1930 | SIX YEARS 1930-36 | 1936-37 | 1937-38 | GRAND TOTAL | PER CENT OF TOTAL |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------------|--------------|--------------|-----------------|-------------------------|
| Land | \$4,000 | | | \$44,875 | \$ 58,750 | | \$ 13,889.00 | \$ 153,040.00 | | | \$ 274,554.00 | 2.1 |
| Buildings | 2,500 | | \$144,000 | 15,000 | 296,500 | | 2,317,836.10 | 104,964.89 | | | 2,880,800.99 | 22.0 |
| Equipment | | | | | 3,600 | \$23,950 | 36,910.00 | 2,999.08 | \$ 200.00 | \$ 7,319.00 | 74,978.08 | .6 |
| | \$6,500 | | \$144,000 | \$59,875 | \$358,850 | \$23,950 | \$2,368,635.10 | \$ 261,003.97 | \$ 200.00 | \$ 7,319.00 | \$ 3,230,333.07 | 24.7 |
| Research | | | | \$ 5,000 | | | \$4,393,401.62 | \$1,355,294.72 | \$119,089.00 | \$412,810.48 | \$ 6,285,595.82 | 48.0 |
| Scholarships and fellowships | | | | 5,000 | \$ 45,000 | \$50,000 | 236,223.64 | 146,032.35 | 31,321.56 | 82,468.89 | 596,046.44 | 4.6 |
| Loans and prizes | | | | 79,300 | 4,700 | | 33,303.28 | 61,831.29 | 3,603.86 | 13,400.72 | 196,139.15 | 1.5 |
| Miscellaneous (research, fellow- ships, scholarships, loans, and prizes) | | | | | | | 83,834.50 | 22,380.62 | 1,740.00 | 800.00 | 108,755.12 | .8 |
| | | | | \$10,000 | \$124,300 | \$54,700 | \$4,746,763.04 | \$1,585,538.98 | \$155,754.42 | \$509,480.09 | \$ 7,186,536.53 | 54.9 |
| Educational | | | | | | | \$ 446,044.00 | \$ 59,520.00 | \$ 9,700.54 | \$ 22,489.75 | \$ 537,754.29 | 4.1 |
| Maintenance for Minnesota Hos- pital and Home for Crippled Children | | | | | | | 2,133,580.00 | | | | 2,133,580.00 | 16.3 |
| Totals for decades | \$6,500 | | \$144,000 | \$69,875 | \$483,150 | \$78,650 | \$9,695,022.14 | \$1,906,062.95 | \$165,654.96 | \$539,288.84 | \$13,088,203.89 | 100.00 |
| Per cent of total | .1 | | 1.1 | .5 | 3.7 | .6 | 74.0 | 14.6 | 1.3 | 4.1 | 100.00 | |

STUDENT INTERESTS AND ACTIVITIES

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NONRESIDENT FEES

The increasing registration at the University of Minnesota, the prospect that it will continue for approximately ten years, and the decreasing income per student have made it necessary to survey the situation to determine what constructive steps should be taken to insure effective scholastic work at the institution.

Although a number of suggestions have been considered, only one has been acted upon and it relates to nonresident students. There is general agreement that the University should not become local and provincial. The Regents and the administration welcome and wish to encourage students from foreign countries, the children of alumni and former students residing in other sections of the United States or the world, students from the Northwest and from neighboring states, and a reasonable number of nonresident students from every part of the United States. The number of nonresident students at the University in the past has been approximately equal to the number of residents of Minnesota in attendance at universities in neighboring states. But of late there has been a tendency for the number of nonresidents at Minnesota to increase more rapidly than the number of residents attending universities in other states. The Regents believe that a balance should be maintained in this matter and it is their opinion that the University of Minnesota should exercise discretion with regard to the number of nonresident students it admits. Students from outside Minnesota should not be admitted whose secondary school work, intelligence rating, or other measures of scholastic achievement do not give better than average promise of an ability to profit from courses of instruction and residence at the University of Minnesota.

Looking toward the above adjustment between nonresident students and resident students, the Regents in 1937 adopted the following resolutions:

Beginning with the academic year 1937-1938, the President of the University or such person or committee as he may designate, is directed to exercise discretion in the admission of non-resident undergraduate students; and the fees for non-resident students in the various colleges are fixed at the rates per quarter shown below with the understanding that corresponding non-resident credit hour fees will be charged non-resident students carrying less than the complete schedule of work.

| | |
|--|-------------------|
| Science, Literature, and the Arts, Education, Agriculture, General College, Dental Hygiene, Graduate School, and Nursing Instruction | \$ 40 per quarter |
| Business, Institute of Technology, and Medical Technology | 45 per quarter |
| Pharmacy and Library Instruction | 50 per quarter |
| Law | 65 per quarter |
| Dentistry | 80 per quarter |
| Medicine and Graduate School Clinical Medicine | 125 per quarter |

STUDENT CONSTITUTION

As the outgrowth of a study made by a special student-faculty committee, appointed by the president, a revision of the constitution of the All-University Student Council was made during 1937-38, and following

ratification by the student body on March 2, 1938, was given formal approval by the Board of Regents on May 12, 1938. Important features of the new constitution include the reduction in the size of the council, election of council members by the Hare system of proportional representation (thus insuring a wider representation of student interests in the body), and the creation of an advisory cabinet with membership drawn from designated campus organizations. The new constitution follows:

CONSTITUTION
of the
ALL-UNIVERSITY STUDENT COUNCIL
of the
UNIVERSITY OF MINNESOTA

We, the students of the University of Minnesota, in order to provide a representative organization to promote student interests; to supervise and coordinate student activities; and to encourage and educate student leadership, do ordain and establish this Constitution.

ARTICLE I

Section 1. All the powers hereinafter mentioned, with the exception of those specifically vested in other offices of the University, shall be exercised by the All-University Student Council, hereinafter designated as the Council.

Section 2. The Council shall have power:

1. To provide for the organization of the All-University classes and for the election of the officers thereof.
2. To supervise the All-University class social functions.
3. To establish a calendar of All-University social events.
4. To supervise and direct the activities of the student committees on University Homecoming and University Freshman Week.
5. To arrange for official football student trips.
6. To select cheerleaders.
7. Upon recommendation of the Board in Control of Student Publications, to remove editors or business managers of major publications.
8. To originate discussions of students' problems and to communicate action or recommendations to the proper University authorities.
9. To consider and take action upon all matters referred to it by the President of the University, or by the University Senate, or its committees.
10. To legislate on any matters necessary to the supervision and coordination of student activities; to encourage and educate student leadership; to promote student interests.
11. To take all necessary and proper action for executing the foregoing powers, and all other powers vested by this Constitution in the Council or any officer thereof.

Section 3. The Council may:

1. Hear and recommend action upon disciplinary cases referred to it by the proper administrative officers.
2. Recommend action to the proper administrative authority with reference to the recognition of student organizations of an All-University character.

ARTICLE II

Section 1. The Council shall be composed of fifteen members elected at large from the student body of the University by the Hare System of proportional representation. All regularly enrolled students of the University of Minnesota who pay the incidental fee of the University are entitled to vote for members of the Council.

Section 2. To be eligible for membership on the Council a student

1. Must be a regularly enrolled student working for a baccalaureate degree.
2. Must meet the All-University eligibility requirements.

Section 3.

1. A council member shall be elected for a two-year term and shall serve for as much of that term as possible under the eligibility requirements for members. A council member who has earned one baccalaureate degree while in office will be eligible to continue his term only if engaged in academic work leading to another baccalaureate degree.
2. A council member elected at a fall election shall serve only until the spring election of his second year.
3. The newly elected Council shall be the judge of the elections and qualifications of its members, with the exception of University eligibility requirements.
4. The Council shall have the power to remove its members for just cause.

Section 4.

1. Elections shall be supervised by a Board of Elections and Eligibility whose members shall be the President of the Council, the President of W.S.G.A., and the Financial Adviser in the Office of the Dean of Student Affairs.
2. The Board shall call an election to fill all vacancies on the Council each fall and each spring on dates to be approved by the Council.
3. The Board shall administer rules of election procedure prescribed by the Council. The decisions of the Board must be unanimous. Persons directly affected by the decisions of the Board may appeal to the Council.

Section 5.

1. The newly elected Council shall take office immediately following the spring elections.
2. Nine members shall constitute a quorum of the Council.
3. Within one week following the spring elections the out-going President of the Council shall call a meeting of the newly elected Council for the purpose of electing the President of the newly elected Council.

ARTICLE III

Section 1. There shall be a President of the Council elected by a majority of the entire membership of the Council as constituted following each spring election.

Section 2. The Council may select the President from among the graduate or undergraduate student body of the University, either from within or without its own membership, provided that

- (a) He has had previous service either on the Council or on the President's Cabinet. This requirement may be waived by a two-thirds vote of the entire membership of the Council.
- (b) He meets University eligibility requirements.

Section 3. The President shall be responsible to the Council for the execution of its actions; he shall prepare a legislative program; he shall represent the Council before the University authorities and in relations with other University organizations; he shall preside at meetings of the Council, and at meetings of the Cabinet.

Section 4. If the President does not fulfill the functions of his office he can be removed from office by a two-thirds vote of the Council membership.

Section 5. The other officers of the Council shall be a Vice President, a Treasurer, and a Secretary. These officers shall be elected by a majority vote from within the membership of the Council, and shall perform the usual services of such offices.

ARTICLE IV

Section 1. The President shall have a Cabinet whose membership shall be composed as follows:

1. Two representatives of the administration appointed by the President of the University.

2. Two representatives of the faculty selected by the University Senate.
3. The President of W.S.G.A.
4. The Student Vice President of the Union Board of Governors.
5. The President of the Board of Publications.
6. The President or the representative of the President of any recognized functioning college council desiring such representation. The seating of such representatives shall be approved by a two-thirds vote of the Council each fall.
7. Such other students, not to exceed six, as the President of the Council may appoint to the Cabinet. Such appointments must be confirmed by a majority vote of the Council.

Section 2. The Cabinet shall meet on the call of the President, and at his pleasure may sit with the Council with all privileges of the floor, except vote and original motion. The Cabinet must sit with the Council at least once each quarter. Administration and faculty members of the Cabinet may sit with the Council at all meetings.

Section 3. The Cabinet shall assist the President in recommending policies to the Council. The Cabinet may advise the President in the executive work of the Council.

ARTICLE V

Section 1. Whenever three-fifths of the entire membership of the Council shall deem it necessary, the Council may propose amendments to this Constitution.

Section 2. Amendments to this Constitution may also be proposed by the petitioning of qualified voters equal in number to ten per cent of the number of ballots cast at the last preceding regular spring election.

Section 3. Such amendments shall be valid when ratified by a majority of all voters casting votes on the amendment at a regular or a special election.

ARTICLE VI

Section 1. Article III, Section 2, Sub-section (a) shall become effective with spring elections 1939. All other sections of this Constitution shall be effective immediately upon their acceptance by the Board of Regents of the University, following their ratification by the student body.

Section 2. All provisions of all former Constitutions of the All-University Student Council are hereby specifically repealed.

STUDENT DIET TABLE

The Students' Health Service in January, 1938, established a special diet table for students with diabetes, gastric ulcer, nephritis, etc. As far as is known, Minnesota is the first university to establish this type of service as an integrated part of its student health program. The need for the diet table is clear. There are numbers of students at the University who are living away from home and who, because of certain medical conditions, must adhere to a special type of diet prescribed by physicians. These students find it almost impossible to obtain the type and quantities of food which they require in the usual dormitory or restaurant dining rooms. It was with their needs in mind that the special diet table at the Health Service was started. A graduate dietitian is in charge of planning and preparing all the meals.

In addition to providing the proper diet for the students, the diet table is also used as a medium through which students needing special diets are taught about the types of foods which they should have and how to select their diets when they are no longer in the University. This diet table thus serves not only as a service enterprise through which students may be served the proper food but is used also for health teaching. During the six months that this diet table has been in operation twenty-one students have been served.

CO-ORDINATION OF STUDENT PERSONNEL SERVICES

During the past two decades the University, in order to provide assistance for problems of adjustment to college life, has established more than twenty special departments and committees. Some of these deal with problems associated with learning and some with those of social and emotional development. All provide a type of assistance which is supplementary to that offered by members of the faculty in their instructional and personal relationships with students.

The work of these departments and committees is usually designated as *student personnel work*. As is true of many other phases of modern higher education, student personnel work has developed without concerted effort to co-ordinate these many services according to a clearly understood policy and program. Consequently, some overlapping of functions has resulted. Frequently students have been subjected to conflicting advice. Moreover, some services have been inadequately supported and others are not provided for at all. The general effectiveness of the University's program is recognized nationally, but the necessity for co-ordination has been pointed out frequently. No officer was charged with the responsibility for helping all personnel workers to develop a balanced, adequate, and co-ordinated program.

With a view to correcting this weakness, the president appointed a faculty committee in January, 1937. This committee studied the University's personnel program and, in its first report in February, 1938, recommended the creation of a new office to be charged with responsibility for:

1. Continuing study of all phases of student personnel work
2. Making recommendations for improvement in personnel services
3. Giving assistance to departments in the improvement of these services
4. Developing lines of co-operation among the various personnel departments

In March, 1938, the Board of Regents approved the acting president's recommendation—based on the survey committee's study—for the creation of the office of co-ordinator of student personnel services, and Professor E. G. Williamson was appointed, effective July 1, 1938. The acting president then appointed an advisory committee of deans to assist in the formulation of general policies and plans. An advisory council of active personnel workers will be appointed later.

MINNESOTA FOUNDATION

A group of students headed by Alfred de Buhr, '38, president of the All-University Council, initiated plans during 1937-38 for the formation of a campus organization to be known as the Minnesota Foundation. The purpose of the foundation is to arouse in the student body an active and intelligent interest in the problems and needs of the University, with the further hope that the interest thus engendered will continue in the students after graduation.

In addition to an educational program stressing the obligation of students and alumni to the institution, the foundation will appeal for funds that may be used to underwrite research projects and other special university activities.

It is proposed to administer the foundation through a student-faculty committee although the details are still being worked out.

UNIVERSITY LIFE

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SEMICENTENNIAL OF THE LAW SCHOOL

By the territorial charter of 1851, the Regents of the University were directed to establish a department of law. The Law School, originally called the College of Law, held its first session in 1888-89 and completed its fiftieth year in 1937-38. This anniversary was celebrated on May 21, 1938.

The semicentennial program brought the alumni together for a luncheon, and in the evening there was a dinner attended by faculty, students, alumni, and members of the bench and bar of the state. Justices of the State Supreme Court, judges of the federal courts, the acting president and Regents of the University, the president of the State Bar Association, and the president of the American Bar Association were present at the dinner. Addresses were delivered by James E. O'Brien, president of the Law Alumni Association; William H. Oppenheimer, a graduate; William R. Vance, former dean of the Law School; Henry J. Fletcher, professor emeritus; James Paige, professor emeritus; Everett Fraser, dean of the Law School; Guy Stanton Ford, acting president of the University; and Arthur T. Vanderbilt, president of the American Bar Association.

The speakers on the program discussed the progress of the school during the fifty years of its existence and its present status and future development. It was called to attention that the course for the bachelor of laws degree, originally two years of law work, was first increased to three years of law work, then to two years of college work and three years of law work, and that it now covers two years of college work and four years of law work. In the early years the faculty members were generally lawyers primarily engaged in practice who gave part-time service to the school. The teaching staff, it was pointed out by contrast, is now composed of trained specialists who give all their time to teaching and research. The course has expanded to keep pace with the developments in the field of law, and in later years has come to include a critical examination of the law and legal procedure and a consideration of the relation of law to the other social sciences.

The principal speaker at the dinner, Mr. Vanderbilt, cited as weaknesses in the nation's law schools low entrance requirements, insufficient attention to criminal law, the failure to develop a critical attitude toward procedural law, and neglect of administrative law. He stated that the University of Minnesota Law School is one of the few schools that is giving attention to all of these matters, and commended as a model the four-year law course developed here.

Special tributes were paid to William S. Pattee, dean of the school from 1888 to 1911; James Paige, professor emeritus, a member of the teaching staff from 1890 to 1934; Henry J. Fletcher, professor emeritus, whose service extended from 1895 to 1929; and William R. Vance, dean from 1912 to 1920, for their contributions to the work and progress of the school.

During the afternoon visitors inspected the Law Building, and the law library of 100,000 volumes, where an exhibition of rare books had been arranged.

In commemoration of the event, the Law Alumni Association made an additional gift of \$18,260 in cash and pledges to the Law Alumni Loan Fund previously established by the association to aid law students of character and ability who need financial assistance.

TWENTY-FIVE YEARS OF EXTENSION WORK

On June 30, 1938, the General Extension Division completed the first twenty-five years of its existence. The division was organized on July 1, 1913, for the purpose of giving adults the opportunity to pursue courses of study at the college level at times and places convenient to them.

The General Extension Division was established just at the time when the interest in higher education was developing rapidly in the United States, and its steady growth since the days of the World War reflects that interest. In its first year 40 instructors offered 112 courses to a total of 2,015 students. In 1937-38 the division conducted 544 classes under 245 instructors and 9,940 different individuals registered for a total of 14,204 semester registrations. In 1922 branch offices of the division were opened in downtown Minneapolis, St. Paul, and Duluth.

The Correspondence Study Department of the division also offered its first courses in 1913-14 and its growth likewise has been steady. In 1913-14, 95 courses were available and there were 83 registrations. In 1937-38 there were 256 courses and 1,986 new registrations were made in the year; counting the carry-over registrations in force and active during the year, the number of correspondence study registrations was 3,632.

There is also a department of Community Service which includes lecture and lyceum work.

The League of Minnesota Municipalities, affiliated with the General Extension Division, also completed twenty-five years of activity in 1937-38. The league is an organization in which membership is held not by individuals, but by the corporations themselves. It aims to serve the municipalities by helping officials in their duties, carrying on research, compiling model ordinances, and acting as a clearing house for significant materials concerning which the officials should be informed.

For the full twenty-five years of its history, the General Extension Division has been under one director, Dr. Richard R. Price. His more detailed report, with a summary of the first quarter century's work, will be found on pages 283-292.

ALL-UNIVERSITY PEACE CONFERENCES

In the biennial report for 1934-36 President Coffman included a section entitled "Need for New Educational Technique." The technique proposed was that of the educational conference, so organized as "to facilitate intelligent, unbiased, and unemotional consideration of the problems associated with far-reaching social changes." It was specifically suggested that the all-important problem of peace and war might be studied in such a conference:

Once in every generation of students there should be a conference to which world scholars and leaders in public life are invited for the purpose of exploring in a scholarly way the subject of war and peace. A joint committee representing the students and the staff should formulate the plans for such a conference, and then in co-operation with the administration, it should extend invitations to those whose participation would contribute most. . . . Joint committees of students and staff might in a similar manner arrange for other conferences devoted to the discussion of vital public matters. Balanced discussion of this type should do much to neutralize pressure propaganda and quiet the ill-founded waves of reform that from time to time sweep the country and press upon the campus. Such discussion, also, should stimulate a wholesome respect for the type of mind that characterizes the scholar and his approach to our problems.

As the direct outgrowth of this suggestion two conferences devoted to an analysis of problems of world peace were held during the biennium.

The first conference was held on April 7, 8, and 9, 1937. It was arranged by a special committee of twelve appointed by the president, with faculty and student membership. The general topic was "Peace or War?" Attendance at the noon sessions averaged about 200, at the afternoon round tables about 400, and the evening audiences ranged between 600 and 1,200. The sessions were open to the public and it is estimated that about one fourth of those in the audiences came from off the campus. The addresses of this first conference were published as a double number of the Day and Hour Series of the University of Minnesota Press, under the title *Peace or War?* About 150 copies of this were distributed to teachers and others concerned with public discussion of international affairs; the other copies were placed on sale. There have been many favorable reviews in leading journals of the social studies, both of a scholarly and semi-popular character, which is but one evidence of the interest that was stimulated by the conference. The subjects and speakers of the 1937 sessions follow:

"National Policies in Conflict in Europe"—Harold S. Deutsch, Assistant Professor of History, University of Minnesota

"National Policies in Conflict in the Far East"—Harley Farnsworth MacNair, Professor of History, University of Chicago

"National Ideas in Conflict"—William Yandell Elliott, Professor of Government, Harvard University

"War Propaganda and Public Opinion"—Peter Odegard, Professor of Political Science, Ohio State University

"America's Program of National Defense"—William T. Stone, Vice President of the Foreign Policy Association, New York City, and Lieutenant Colonel Adam E. Potts, Professor of Military Science and Tactics, University of Minnesota

"National Interests in Conflict"—Benjamin B. Wallace, Chief of the Division of International Relations, United States Tariff Commission

"The League of Nations Today"—Pitman B. Potter, Professor of International Organization, the Graduate Institute of International Studies, Geneva, Switzerland

"Economic Bases of Peace"—Alvin H. Hansen, Professor of Economics, University of Minnesota

"Can National Economic Policies be Reconciled?"—David Bryn-Jones, Professor of International Relations, Carleton College

"Neutrality, Security, and the Avoidance of War"—Edgar W. Turlington, Chief Counsel of the Special Mexican Claims Commission, Washington, D.C.

The conference in the spring of 1938 was held on April 5 and 6, and April 13 and 14. With full co-operation of the administration, this was

sponsored by the All-University Student Council which appointed a special committee that included representatives of the Student Peace Council. A faculty advisory committee also worked closely with the student committee. Concerning the program, the student chairman of the committee wrote:

It is true that there are many conflicting opinions among students concerning the best means of obtaining and maintaining peace. But the purpose of the conference was to consider as many of these different approaches as possible, to discuss them under the leadership of men who are well known in their various fields, and, as a result, to obtain a better knowledge and understanding of the problems at hand and a more adequate preparation for meeting them.

The audiences were of about the same size as at the conference of the year before. Some of the sessions were broadcast. The 1938 program—"War or Peace: Which Shall It Be?"—follows:

"The Benefits *vs.* the Costs of War"—Maynard C. Krueger, Assistant Professor of Economics, University of Chicago

"The Costs of Obtaining and Maintaining Peace"—Arthur R. Upgren, Associate Professor of Economics and Finance, University of Minnesota

"Religion and World Peace"—Raymond B. Bragg, Minister, First Unitarian Society of Minneapolis

"How America Went to War in 1917"—Harry Elmer Barnes, Historian, Sociologist, and Columnist, Scripps-Howard Newspapers

"Preparedness for Peace"—Lindsey Blayney, Dean of Carleton College

"Neutrality or Isolation?"—Harry David Gideonse, Associate Professor of Economics, University of Chicago

"Neutrality and Sanctions"—Edwin M. Borchard, Professor of International Law, Yale University

"Collective Security and the World Crisis"—Quincy Wright, Professor of International Law, University of Chicago

"The League of Nations"—Walter H. C. Laves, Director of the League of Nations Association

"Capitalism: the Cause of War"—Louis M. Hacker, Lecturer in Economics, Columbia University

"Youth and the New Techniques of Peace"—Norman M. Thomas, Political Leader, Author, and Editor

For the spring of 1939 the All-University Council, aided by a faculty advisory committee and in co-operation with the administration, is planning a conference to be focused on the problems of labor.

CONVOCATIONS

On Thursday mornings throughout the academic year, and during the Summer Sessions, all-university convocation exercises are held in Northrop Memorial Auditorium, and distinguished speakers are presented to the student body. These convocations give an opportunity to bring to the campus leaders in many realms of thought. The convocation exercises are regularly broadcast over the university radio station WLB. The speakers and subjects during the biennium are listed below:

1936-1937

July 23: Summer Session commencement exercises: Charles H. Judd, Head of the Department of Education, University of Chicago, "The Social Heritage"

October 1: Opening convocation: Lotus D. Coffman, President of the University, "Address of Welcome"

- October 8: Blanche Yurka, Actress and Motion Picture Star, "The Ever Expanding Theater"
- October 15: Phyllis Bentley, British Novelist, "The Modern Novel"
- October 22: Olin Downes, Music Critic of the *New York Times*, "Music in a Changing World"
- November 5: Arthur H. Compton, Professor of Physics, University of Chicago, "Can Science Point the Way?"
- November 11: Armistice Day: Carlton J. H. Hayes, Professor of History, Columbia University, "Nationalism and World Peace"
- November 19: George Boas, Professor of the History of Philosophy, Johns Hopkins University, "Daumier and His Times"
- November 24: Student assembly for football awards: Frank McCormick, Athletic Director, "Athletics at Minnesota"; B. W. Bierman, Head Football Coach, "Review of the Season"; Lotus D. Coffman, President of the University, "Awarding of M's"
- December 10: State Day convocation: The Honorable Hjalmar Petersen, Governor of the State of Minnesota, "The State and Higher Education"
- December 17: Fall quarter commencement exercises: Henry W. A. Hanson, President of Gettysburg College, "Men of Steel in Ships of Wood"
- January 7: Henry Norris Russell, Research Professor of Astronomy and Director of the Observatory, Princeton University, "The Atmosphere of the Planets"
- January 14: Joseph Ralston Hayden, Professor of Political Science, University of Michigan, "The Changing Orient"
- January 21: William S. Cooper, Professor of Botany, University of Minnesota, "Forests and Glaciers in Southern Alaska"
- January 28: Maud Scheerer, Dramatic Reader, "Theater and Film—Friendly Enemies"
- February 4: Rockwell Kent, Artist and Author, "Art Is for Everyone"
- February 11: Catherine Bauer, Housing Consultant, "Why a Modern Housing Movement?"
- February 18: William F. Ogburn, Professor of Sociology, University of Chicago, "Education and the Totalitarian State"
- February 25: Wendell Chapman, Author and Photographer of American Wild Life, "Wild Animals of the Rockies"
- March 4: Sir Arthur Willert, Diplomat and Publicist, "Behind the Headlines"
- March 11: Zora Neale Hurston, Negro Author, "Music on the Black Keys"
- March 18: Winter quarter commencement exercises: Robert C. Wallace, Principal and Vice-Chancellor, Queen's University, Kingston, Ontario, "The Open Door"
- April 1: Sigmund Spaeth, Writer, Musician, and Lecturer, "Adventures of a Tune Detective"
- April 8: Robert D. Kohn, Architect, "Planning the World of Tomorrow"
- April 15: Arthur Guiterman, Poet, "Fun in Poetry"
- April 22: Edward Weeks, Editor-in-Chief of the *Atlantic Monthly Press*, "The Editor's Easy Chair"
- April 29: Music convocation: The University Symphony Orchestra and Olin Downes, Pianist
- May 13: Cap and Gown Day convocation: Russel Grant, President of the All-University Senior Class, "Presentation of the Class of 1937"; Lotus D. Coffman, President of the University, "Response"
- June 13: Baccalaureate exercises: The Reverend Thomas Wesley Graham, Dean of the Graduate School of Theology, Oberlin College, "Under Three Flags"
- June 14: Commencement exercises: President Lotus D. Coffman, "Charge to the Class"
- June 17: Dr. Fay Cooper Cole, Anthropologist, University of Chicago, "Prehistoric Life in the Mississippi Valley"
- June 24: Fraulein Anny Rutz, Member of the Passion Play Cast, Oberammergau, "Behind the Scenes at Oberammergau"
- July 1: James Johnson Sweeney, Associate Editor of *Transition*, "Surrealist Art"
- July 8: Reginald Pole, English Poet and Composer, "Modernism in the Theater"
- July 15: Dr. Delmar Foster, Archeologist and Authority on Mexico, "The Mexico of Yesterday, Today, and Tomorrow"
- July 22: Summer Session commencement exercises: Thomas N. Barrows, President of Lawrence College, "Liberal Security"

July 29: Howard Higgins, Dean of Emerson College, "Among the Spirits"
 August 5: Gustave Grahn, Lecturer, "The Movie Camera Looks at Lion Land"
 August 12: Radhakamal Mukerjee, Hindu Sociologist, "Migrant Asia"

1937-1938

September 30: Opening convocation: Guy Stanton Ford, Acting President of the University, "Address of Welcome"
 October 7: Carl Sandburg, Poet, "A Morning Hour with Carl Sandburg"
 October 14: Carroll Binder, Foreign Editor of the *Chicago Daily News*, "Can Europe Keep the Peace?"
 October 21: Elvin C. Stakman, Professor of Plant Pathology and Chief of the Section of Plant Pathology, University of Minnesota, "Biologic Problems in Agriculture"
 October 28: Grace Flandrau, Author, "The Congo I Can't Forget"
 November 4: Louis K. Anspacher, Poet, Dramatist, Philosopher, "Democracy and Irresponsibility"
 November 11: Armistice Day: James G. McDonald, Member of the Editorial Staff of the *New York Times*, "Modern Undeclared War"
 November 18: Carl Van Doren, Editor and Author, "The American Imagination"
 November 23: Student assembly for football awards: Frank McCormick, Athletic Director, "Athletics at Minnesota"; B. W. Bierman, Head Football Coach, "Review of the Season"; Guy Stanton Ford, Acting President of the University, "Awarding of M's"
 December 2: Dr. Victor G. Heiser, Author and Public Health Physician, "More of an American Doctor's Odyssey"
 December 16: Fall quarter commencement exercises: William Eddy, President of Hobart College, "Experiments in Living"
 January 6: Martha Gellhorn, Novelist and Foreign Correspondent, "Spain and the Lesson of War"
 January 13: Lewis Mumford, Writer and Critic in the Field of Art and Architecture, "The Sources of Modern Architecture"
 January 20: Hubert C. Herring, Director of the Committee on Cultural Relations with Latin America, "Fascism Comes to Brazil"
 January 27: James M. Hepbron, Managing Director, Baltimore Criminal Justice Commission, "Hail Felon Well Met"
 February 3: Gregory Mason, Explorer and Archeologist, "Columbus Came Late"
 February 10: H. S. Ede, Former Curator of Tate Gallery, London, "Pictures Are Like People"
 February 17: Wendell Chapman, Author and Photographer of American Wild Life, "Wilderness Wanderers"
 February 24: James Bryant Conant, President of Harvard University, "Defenses against Propaganda"
 March 3: Bradford Washburn, Explorer, "Winter Adventures in the Yukon"
 March 17: Winter quarter commencement exercises: Christian Gauss, Dean of the College, Princeton University, "The Country of the Educated Man"
 March 31: Henry Seidel Canby, Author, Editor, and Critic, "What Makes a Good Book"
 April 7: Cornelia Stratton Parker, Author, "Travel Versus a College Education"
 April 14: Student peace convocation: Norman Thomas, Socialist Leader, Author, and Editor, "Youth and the New Techniques of Peace"
 April 21: William Lyon Phelps, Professor of English Literature, Emeritus, Yale University, "Truth and Poetry"
 April 28: Commander C. E. Rosendahl, U. S. Naval Air Station, Lakehurst, New Jersey, "The Present Airship Situation"
 May 5: John Martin, Author and Dance Critic, "America Dancing"
 May 12: Cap and Gown Day convocation: Elwood W. Molander, President of the All-University Senior Class, "Presentation of the Class of 1938; Guy Stanton Ford, Acting President of the University, "Response"
 June 12: Baccalaureate service: The Reverend Boynton Merrill, Pastor of the Second Church, West Newton, Massachusetts, "The Great Sea"
 June 13: Commencement exercises: Guy Stanton Ford, Acting President of the University, "Charge to the Class"

- June 16: Joseph Smith, Associate Professor of Speech, University of Wisconsin, "The Enjoyment of Poetry"
- June 23: Upton Close, Foreign Correspondent, "The Crisis in the Far East"
- June 30: James Marshall, Australian Naturalist, "Unusual Australia"
- July 7: Carl Mose, American Sculptor, "How a Sculptor Works"
- July 14: Gustave Grahn, Lecturer, "An American Holiday with Wild Life"
- July 21: Commencement exercises, M. T. McClure, Dean of the College of Liberal Arts and Sciences, University of Illinois
- July 28: George Dillon, Editor of *Poetry Magazine*, "What Is Happening in Modern Poetry Today"
- August 4: John Gelbert, Physician and World Traveler, "An Intimate Close-up of Hitler"
- August 11: Wilfred Laurier Husband, Lecturer, "Sweden: Where Human Values Count"
- August 18: Documentary films: "The Face of Britain" and "The River"

SPECIAL UNIVERSITY LECTURES

In addition to the convocation series, the president's office, usually in co-operation with one or more of the departments, sponsors occasional all-university lectures. In general, the appeal of these is more limited, and the audiences more highly selected. Treatment of the topics discussed tends to be more specialized. These lectures, however, do make it possible to have distinguished scholars and creative workers meet with groups who may be especially interested in a given field. Through these contacts the intellectual life of the campus is greatly stimulated. This is indicated from the list of guest speakers during the past biennium:

1936-1937

FALL QUARTER

- October 9: Blanche Yurka, Actress and Motion Picture Star, "The Arc of the Theater"
- October 19: R. A. Fisher, Galton Professor of Eugenics, London, "The Design of Experiment"
- November 9: Dr. F. P. Keppel, President, Carnegie Corporation of New York, "The Place of Art in the Modern World"
- November 10: George Otis Smith, Director of the United States Geological Survey, 1907-30, "What Value, Geologists?"
- December 2: H. W. Kruger, Consultant in Criminal Cases, "Crime Detection Laboratories"
- December 4: Albert Britt, Former President of Knox College, "Modern Biographers and What Makes Them Modern"

WINTER QUARTER

- January 12: George W. Stratton, Professor of Psychology, Emeritus, University of California, "Human Nature and War"
- January 29: Alice Salomon, Vice-President, International Council for Women, Berlin, Germany, "Social Work in a Changing World"
- February 5: S. L. Joshi, Philosopher, Bombay, India, "America and the Orient—Root Causes of Misunderstanding"
- February 26: Victoria Stevenson, Writer, "Writing Today's Feature Story"
- March 2: Ruoy Sibley, Astronomer, "The Universe through a Telescope"
- March 4: Dr. F. Schoenemann, Professor of American Literature, University of Berlin, "American Literature in Germany"
- March 4 and 5: Oscar B. Jacobson, Director of Art, University of Oklahoma, "Discovering America" "The Arts and Interpretation"
- March 11: Martha Graham, American Dancer, "The Modern Dance"

SPRING QUARTER

- April 6: Dr. W. E. Hocking, Professor of Philosophy, Harvard University, "The Way to a Political Ethics"
 April 21: W. H. Hobbs, Emeritus Professor of Geology, University of Michigan, and Explorer, "Superior Mirage and the Exploration of Polar Lands"
 May 14: E. O. Lawrence, Director, Radiation Laboratory, University of California, "Recent Developments in Atomic Research"
 May 18, 20, 21, 25, 27: Gaetano Salvemini, Lecturer at Harvard, "The German-Polish Entente and Eastern Europe," "The Ethiopian War," "The Consequences of the Ethiopian War," "The British-Franco Entente and Soviet Russia," "The Spanish 'Little World War' and American Neutrality"

1937-1938

FALL QUARTER

- October 19: Dr. Shio Sakanishi, in charge of Japanese Collection, Library of Congress, "Japanese Poetry"
 November 18: Francis S. Onderdonk, Architect, "Concrete's Influence on Modern Architecture"
 November 22: Wilfrid Laurier Husband, Lecturer, "Sweden: Where Human Values Count"
 December 8: Christian Ruckmick, Professor of Psychology, University of Michigan, "Emotions in the Motion Picture Theater"

WINTER QUARTER

- January 19: Feg Murray and Jimmy Murphy, Cartoonists
 February 1: Dr. Hu Shih, Chinese Philosopher and Author, "Chinese Nationalism"
 February 4: Dr. L. L. Thurstone, Psychologist, "Isolation of Mental Abilities by Method of Factor Analysis"
 February 7: Hanya Holm, Dance Artist, "Lecture-Recital on The Dance"
 February 8: Chester Lloyd Jones: Professor of Economics, University of Wisconsin, "Commercial Relations with Latin America"
 February 9: Lieutenant Colonel A. E. Potts, Professor of Military Science and Tactics, University of Minnesota, "National Defense Lessons Learned from Asia"
 February 18: D. A. Robson, University of London, "The City Government of Moscow"
 February 23: E. H. Carr, University College of Wales, "Great Britain, Italy and the Mediterranean"

SPRING QUARTER

- April 7: Gunnar Asplund, Architect, Stockholm, "Swedish Architecture since 1920: Its Problems and Trends"
 April 11: Dr. Franz Weidenreich, Anthropologist, Peiping, China, "The Peking Man"
 April 26: Irving Garwood, Professor of English, Western Illinois State Teachers College, "Poe, the Dreamer"
 May 13: Dr. Dag Stromback, Swedish Scholar, "The Origin of the Icelandic Family Saga"

The convocation and all-university lecture lists by no means include all lectures given on the campus. Excluding the convocations, in 1936-37 there were 523 lectures delivered before various groups during the academic year. In 1937-38 the number increased to 610. In the first year of the biennium 182 of these lectures were given by 134 members of the faculty; 172 faculty members delivered 245 of the lectures to student groups in 1937-38. As one studies the long list of subjects he is impressed with the vast range of the topics, and also with the fact that an excellent balance in subject-matter and point of view is maintained. These lectures constitute a real intellectual influence in university life and make for the vitality that is associated with a first-rate university.

THE SIGMA XI SERIES

In 1928 Sigma Xi, honorary scientific society, introduced a series of popular scientific lectures. There was an immediate response and the series has been continued annually. All of the lectures are given by members of the staff. In 1936-37 the general theme of the series was "Natural Resources of Minnesota" with these speakers:

- February 5: George M. Schwartz, "Rock Formations of Minnesota and Their Significance"
 February 12: C. Otto Rosendahl, "The Plants of Minnesota and Their Significance"
 February 19: Samuel C. Eddy, "Animals of Minnesota and Their Significance"
 February 26: Darrell H. Davis, "Man and His Habitat"

In 1937-38 the topic was "Man and His Diet," with these speakers:

- February 4: Leroy S. Palmer, "The Fundamentals of Nutrition"
 February 11: Chester A. Stewart, "The Feeding of the Child"
 February 18: Russell M. Wilder, "Fads, Fancies, and Fallacies in Adult Diets"
 February 25: Clyde H. Bailey, "The Food Industries of Minnesota"

SPECIAL OCCASIONS

Faculty dinner.—On November 9, 1937, a faculty dinner was held in the ballroom of the Minnesota Union. President L. D. Coffman, presided, and the guest speaker was Dr. Frederick P. Keppel, president of the Carnegie Corporation of New York, whose subject was "Art and Its Place in Modern Society."

Dome Club visit.—The Dome Club with a membership consisting of wives of the members of the state legislature, visited the campus on February 16, 1937.

Legislative visit.—Members of the legislature were guests of the University on February 25, 1937. The visitors were shown points of interest on the Farm campus and the Main campus, and were entertained at dinner in the Minnesota Union. President Coffman discussed university problems and a special program was later presented by students of the Department of Music and the University Theatre.

Court of Honor.—In 1933, the Minneapolis Civic and Commerce Association, the Junior Chamber of Commerce, the Council of Civic Clubs, and the University Contact Committee inaugurated a "court of honor ceremony" in recognition of the accomplishment of honor students at the University. This was continued during the biennium, with the students as guests of the sponsoring groups at dinner. On June 3, 1937, 150 high ranking students heard an address by Frederick E. Stinchfield, president of the American Bar Association. The response for the seniors was given by Sam E. Hunt, Jr., of the School of Business Administration. On June 2, 1938, 149 seniors were guests, and heard the address of Allan Whitfield of Des Moines, Iowa. Miss Elizabeth Donovan of the College of Education responded for the class.

A.A.U.P. dinner.—On January 28, 1937, President L. D. Coffman was guest of honor at a dinner given by the University of Minnesota chapter of the American Association of University Professors. The principal speaker was Dr. Anton J. Carlson, University of Chicago, president of the association. He paid high tribute to the administration of President Coffman. Dr. C. M. Jackson of the Department of Anatomy,

Professor Martin Ruud of the Department of English, Arts College, Professor Elvin C. Stakman, chief of the section of plant pathology, and Professor David Swenson, chairman of the Department of Philosophy, Arts College, reviewed the development of the University and its progress under President Coffman's leadership.

UNIVERSITY CONCERT AND DRAMA COURSES

Symphony.—During the season 1936-37 the University presented the seventh annual series of University Symphony Concerts by the Minneapolis Symphony Orchestra. No regular conductor was employed for the season. The six guest conductors were: Eugene Ormandy, Artur Bodanzky, Jerzy Bojanowski, Dimitri Mitropoulos, Guy Fraser Harrison, and José Iturbi. There were sixteen mid-week concerts, eighteen Sunday concerts, three young peoples concerts (for the public, parochial, and private schools of the Twin Cities), and three special concerts for university students. Soloists with the orchestra were Florence Austral, Charles Kullmann, Mischa Elman, Helen Jepson, Sergei Rachmaninoff, Sigrid Onegin, Marian Anderson, Albert Spalding, Josef Hofmann, and Lawrence Tibbett.

For the second year of the biennium, season 1937-38, Dimitri Mitropoulos, distinguished Athenian maestro, was engaged as regular conductor of the Minneapolis Symphony Orchestra. As Mitropoulos could not arrive until January 1, Daniele Amphitheatrof acted as associate conductor for the first six weeks. The regular sixteen mid-week concerts, eighteen Sunday concerts, three young peoples concerts, and three university students concerts were given, besides a series of twenty-five radio concerts: "The March of Minnesota." Following is a list of the soloists: Rudolph Serkin, Richard Tauber, Monte Carlo Ballet Russe, Erika Morini, Artur Rubinstein, Marian Anderson, Jascha Heifetz, Lauritz Melchior, Helen Traubel, and Emanuel List.

Artists Course.—During the biennium the University Artists Course maintained the high standards for which this series is distinguished. During 1936-37 the following artists were presented: Kirsten Flagstad, Don Cossacks and Jaroff, Lauritz Melchior, Erika Morini, Trudi Schoop and her ballet, and Arthur Schnabel. During 1937-38 the artists were Sergei Rachmaninoff, Yehudi Menuhin, Arthur Poister, Helen Jepson, John Brownlee, Trudi Schoop and her ballet, and Mischa Levitzki.

University Theatre.—The following is a list of the University Theatre productions covering the period from July 1, 1936 to June 30, 1938:

| | |
|---------------------------|------------------------|
| Ten-Minute Alibi | Outward Bound |
| Three-Cornered Moon | Androcles and the Lion |
| The Young Idea | High Tor |
| Monna Vanna | Is Life Worth Living? |
| The Late Christopher Bean | Life of Man |
| Russet Mantle | No More Frontier |
| Henry IV, Part I | Kind Lady |
| The Distaff Side | Man and Superman |
| Mrs. Moonlight | |

CHANGES IN THE BOARD OF REGENTS

The two houses of the 1937 Legislature having failed to meet in joint session to make appointments to the Board of Regents to fill the vacancies arising because the terms of four members had expired, Governor Elmer A. Benson at the close of the special session appointed the following as members of the Board:

Mr. Benjamin DuBois, Sauk Center, independent banker
Mr. George B. Leonard, Minneapolis, attorney
Mr. Lewis E. Lohmann, St. Paul, attorney
Mr. Martin M. Olson, Vining, farmer

These replaced:

Mr. Julius A. Coller, Shakopee
Dr. O. J. Hagen, Moorhead
Mr. A. J. Olson, Renville
Mr. Rufus R. Rand, Jr., Wayzata

To fill the vacancy caused by the death of Regent John G. Williams of Duluth, in August, 1937, Governor Benson in November appointed as a member of the Board, Mr. O. M. Peterson, farmer, Albert Lea.

RETIRING MEMBERS OF THE STAFF

At the commencement exercises each June, the president, speaking for the faculty, makes special mention of the members of the teaching and administrative staff whose terms of service at the University are drawing to a close because of the retirement provisions. Special tribute is paid to them for the services they have faithfully rendered to the student body, to the University, and to the state. The significance of these retirements was expressed by President Coffman at the 1937 ceremonies in these words:

Commencement exercises always involve a mixture of emotions. Among the students there are the feelings of satisfaction and gladness that come with the termination of work that has been well done. There is the joy that naturally follows the achievement of an end that has long been sought. But there are likewise feelings of sadness and regret—sadness that pleasant experiences are coming to an end, and regret that happy associations are now to be broken.

For a few moments I wish to speak not of the students whose college courses are ending tonight. Instead, I wish to speak of and for the faculty. For the members of the teaching staff this occasion is also one of mingled feelings and emotions. For them, as for the students, the Commencement exercises each year mark a break in the personal relationships that develop so strongly among colleagues on any college or university campus.

The University of Minnesota is a young university, measured by the span of years during which educational institutions have been developing. It is less than seventy-five years old. Yet within approximately three quarters of a century it has achieved a place of eminence that commands respect among scholars the world over. The University of Minnesota has, on the whole, had a fortunate history. The

people have supported it well, often with sacrifice. It has maintained the confidence of the men and women of this state, who have sent their children here in order that they might enjoy and profit from the opportunities that are available at a great, integrated center of education. There is nothing an institution cherishes more than good relations with the people it serves, and the University of Minnesota has long had the satisfactions that flow from good relations.

The University, likewise, has a goodly share of the physical equipment without which no educational program can go forward. The buildings that have been erected are useful, well equipped, and comfortable, for the most part well adapted to their purposes. Its library, not the largest among colleges and universities, is none the less a fine, working library. Its auditorium is becoming the center for cultural activity. Its laboratories make it possible to carry forward basic research in many fields. In short, the University of Minnesota provides a setting for the accomplishment of a high level of scholarly work.

But it is not the fact that the people of the state appreciate the values of education and wish it for their children, or the fact that the physical facilities are satisfactory for rich accomplishment that have given the University of Minnesota its place of prominence in the academic world. An educational institution is not known because of the state in which it is located, or for the structures that are erected on the campus. A university is known for the men who are its faculty. A university achieves a reputation because of the scholarship and the teaching that are associated with its name. It takes men and women to make a university; money and buildings alone can never do it.

As you look at the history of the University of Minnesota you understand how profoundly true this statement is. The accomplishments that have redounded to the credit of this institution are but the reflections of the personalities and the abilities of countless men and women who have served it faithfully. This institution has had the rare fortune of having on its staff for many years a group of scholars whose devotion to learning, to teaching, and to the state of Minnesota has been unswerving. To their younger colleagues they have been a constant source of stimulation. To their older colleagues they have been a constant source of pride. It is they, in short, who have made the University of Minnesota.

It is well to stress the importance to this University of these men and women of high caliber, for in the next decade more than seventy of them will retire from its service. These colleagues, whose imprint is on the University of Minnesota as we know it, will soon turn over to other and younger men and women the future of the institution. What the University of Minnesota is to be a generation from now, what standards of scholarship and teaching are to prevail, what place the University is to have in the world of learning and in the eyes of scholars everywhere, will depend upon the choice of successors to those who have thus far served so faithfully and so well. There is no task more important than choosing those successors. It is a matter calling for the exercise of infinite wisdom and care. To act otherwise is to endanger all that has been accomplished thus far. Academic reputations are laboriously made; they are easily shattered.

With all of this in mind—our debt to those who have gone before us, and our responsibilities to those who will come after us—it is well that we should pause for a moment at these Commencement exercises to render a tribute of praise to those of our colleagues whose active service on the staff of the University of Minnesota is about to end. May they look back upon their years at Minnesota with deep satisfaction. They are entitled to full pride for the contributions they have made. Without them, individually and as a group, this institution would have been poorer.

I voice the sentiments of all their associates in wishing for them yet many years of satisfying life, devoted to the doing of those things which they have long wanted to do. With great gratitude for all that they have done as well as deep affection for them personally, we honor the retiring members of the staff.

The following members of the staff retired :

1936-37

Arthur Edwin Benjamin

| | |
|--|-----------|
| Assistant in gynecology | 1895-1901 |
| Clinical instructor in gynecology | 1901-1913 |
| Assistant professor of obstetrics and gynecology | 1926-1937 |

Edgar Dewight Brown

| | |
|--|-----------|
| Assistant professor of pharmacology | 1907-1909 |
| Professor of pharmacology and materia medica | 1909-1913 |
| Associate professor of pharmacology | 1913-1937 |

George Herbert Fairclough

| | |
|-------------------------------------|-----------|
| Part-time instructor of organ | 1918-1921 |
| Instructor of organ | 1921-1925 |
| Assistant professor of music | 1925-1937 |

Elizabeth Shiell Hause

| | |
|-----------------------------|-----------|
| Instructor in English | 1909-1937 |
|-----------------------------|-----------|

John Black Johnston

| | |
|---|-----------|
| Assistant professor of anatomy of the nervous system | 1907-1908 |
| Associate professor of anatomy of the nervous system | 1908-1909 |
| Professor of comparative neurology | 1909-1914 |
| Professor of animal biology and dean of the College of Science, Literature, and the Arts | 1914-1937 |

William Herman Kirchner

| | |
|---|-----------|
| Assistant professor of drawing and descriptive geometry | 1894-1907 |
| Professor of drawing and descriptive geometry | 1907-1937 |

Everett Ward Olmsted

| | |
|---|-----------|
| Professor and head of the Department of Romance Languages | 1914-1937 |
|---|-----------|

Josephine Elizabeth Tilden

| | |
|--|-----------|
| Scholar in botany | 1896-1897 |
| Instructor in cryptogamic botany | 1897-1903 |
| Assistant professor of botany | 1903-1910 |
| Professor of botany | 1910-1937 |

Marion Weller

| | |
|---------------------------------------|-----------|
| Assistant professor of textiles | 1914-1919 |
| Associate professor of textiles | 1919-1937 |

Louis Blanchard Wilson

| | |
|---|-----------|
| Assistant professor of pathology and bacteriology, University | 1896-1905 |
| Professor of pathology, Mayo Foundation | 1905-1917 |
| Director and professor of pathology, Mayo Foundation | 1917-1937 |

1937-38

William Boss

| | |
|--|-----------|
| Instructor in steam engineering, Dairy School | 1892-1909 |
| Instructor in carpentry, in charge of carpenters and repair work | 1893-1909 |
| Instructor in power machinery | 1895-1909 |
| Chief engineer in charge of central heating and electric lighting plant | 1897-1909 |
| Professor of farm structures and farm mechanics | 1905-1909 |
| Professor of agricultural engineering, chief of the Division of Farm Engineering, and chairman of the Agricultural Engineering Group | 1919-1938 |

James Davies

| | |
|-------------------------------------|-----------|
| Instructor in German | 1909-1917 |
| Assistant professor of German | 1917-1938 |

Henry Anton Erikson

| | |
|--|-----------|
| Instructor in physics | 1897-1906 |
| Assistant professor of physics | 1906-1914 |
| Associate professor of physics | 1914-1915 |
| Professor of physics and chairman of the Department of Physics | 1915-1938 |

Jules Theophile Frelin

| | |
|--|-----------|
| Scholar in French | 1904-1905 |
| Instructor in French | 1905-1907 |
| Assistant professor of French | 1907-1936 |
| Assistant professor of Romance Languages | 1936-1938 |

Henry Samuel Godfrey

| | |
|---|----------------------|
| Instructor in operative dentistry | 1897-1902, 1907-1909 |
| Clinical professor of dentistry | 1909-1912 |
| Associate professor of dentistry | 1912-1913 |
| Professor of dentistry | 1913-1938 |

Albert E. Jenks

| | |
|--|-----------|
| Assistant professor of sociology | 1906-1907 |
| Professor of anthropology | 1907-1938 |
| Chairman of the Department of Sociology and Anthropology | 1915-1918 |
| Chairman of the Department of Anthropology | 1918-1938 |
| Director of the Americanization Training Course | 1918-1923 |
| Director of the Archeological Research Fund | 1929-1938 |

Jennings Crawford Litzenberg

| | |
|--|-----------|
| Assistant physical director | 1897-1907 |
| Assistant in ophthalmology and otology | 1900-1902 |
| Clinical instructor in obstetrics | 1902-1906 |
| Clinical professor of obstetrics | 1906-1910 |
| Associate professor of obstetrics and gynecology | 1910-1913 |
| Professor of obstetrics and gynecology and head of the Department of Obstetrics and Gynecology | 1913-1938 |

Walter Dewitt Shelden

| | |
|---|-----------|
| Clinical assistant in medicine, University | 1905-1906 |
| Clinical instructor in medicine, University | 1906-1910 |
| Clinical professor of medicine, University | 1910-1913 |
| Assistant professor of neurology, Mayo Foundation | 1913-1915 |
| Associate professor of neurology, Mayo Foundation | 1915-1921 |
| Professor of neurology, Mayo Foundation | 1921-1938 |

Anthony Zeleny

| | |
|--------------------------------------|-----------|
| Scholar in physics | 1895-1897 |
| Instructor in physics | 1897-1906 |
| Assistant professor of physics | 1906-1909 |
| Professor of physics | 1909-1938 |

CHANGES IN THE FACULTIES

RESIGNATIONS, 1936-37

- Harold R. Benjamin, professor and director, Center for Continuation Study, effective June 16, 1937.
- Fred Engelhardt, professor, College of Education, effective April 1, 1937.
- Alvin C. Eurich, professor and assistant dean, College of Education, effective at close of 1936-37.
- Alvin H. Hansen, professor of economics, effective June 16, 1937.
- Kenneth F. Maxcy, professor and head, Department of Preventive Medicine and Public Health, effective June 16, 1937.
- Hobart A. Reimann, professor of medicine, effective September 1, 1936.
- Edwin C. Johnson, associate professor of agricultural economics, effective March 16, 1937.
- Morris H. Nathanson, clinical associate professor of medicine, effective July 1, 1937.
- First Lieutenant Charles E. Brown, assistant professor of military science and tactics, effective September 1, 1936.
- Frank J. Brown, district county agent leader with rank of assistant professor in agricultural extension, effective May 16, 1937.
- Edward F. D'Arms, assistant professor, Department of Classics, effective June 16, 1937.
- Lieutenant Richard A. Ericson, assistant professor of military science and tactics, effective September 1, 1936.
- Oliver R. Floyd, principal and assistant professor, University High School, effective June 16, 1937.
- Verne C. Fryklund, assistant professor of trade and industrial education, effective June 16, 1937.
- Russell E. Gibbs, assistant professor of mechanical engineering, effective at close of 1936-37.
- Frederick L. Hovde, assistant director and assistant professor, General College, effective September 16, 1936.
- John A. Lepak, assistant professor of medicine, effective July 1, 1937.
- Alton O'Steen, assistant professor of general education, effective at close of 1936-37.
- Oscar A. Owre, assistant professor of urology, Department of Surgery, effective July 1, 1937.
- William E. Patterson, assistant professor of ophthalmology and otolaryngology, effective at close of 1936-37.
- Calvin V. Schmid, assistant professor of sociology, effective June 16, 1937.
- William B. Tucker, assistant professor of biological studies, General College—General Education Board Fund, effective December 16, 1936.

RESIGNATIONS, 1937-38

- Otis C. McCreery, assistant dean of student affairs, effective October 1, 1937.
- Harl R. Douglass, professor, College of Education, effective March 16, 1938.
- Esther McGinnis, professor, Institute of Child Welfare, effective December 16, 1937.
- John W. Miller, professor of philosophy, effective June 16, 1938.
- Arthur Poister, professor of music, effective June 16, 1938.
- Edwin G. Bannick, associate professor of medicine, Mayo Foundation, effective March 1, 1938.
- Herbert Sorenson, associate professor of education, General Extension Division, effective January 1, 1938.
- William L. M. Burke, assistant professor of fine arts, effective at close of 1937-38.
- Eula B. Butzerin, assistant professor of preventive medicine and public health, effective September 1, 1937.

- Robert M. Dolve, assistant professor of mechanical engineering, effective June 16, 1938.
- Edna Fowler Mathieson, assistant professor of home economics, effective December 16, 1937.
- W. Bruce Silcox, assistant professor and extension economist in marketing, Agricultural Extension, effective August 1, 1937.
- H. Burr Steinbach, assistant professor of zoology, effective June 16, 1938.
- Henry N. Stephens, assistant professor of inorganic chemistry, effective at close of 1937-38.
- Ralph M. Tovell, assistant professor of anesthesia, Mayo Foundation, effective July 1, 1937.
- Stanley A. Trengove, assistant professor, School of Mines and Metallurgy, effective May 16, 1938.

APPOINTMENTS, 1936-37

PROFESSORS

- Glenn L. Jenkins as professor of pharmaceutical chemistry, College of Pharmacy, beginning October 1, 1936
Ph.G. 1921, B.S. 1922, M.S. 1923, Ph.D. 1926, University of Wisconsin.
- Thomas L. Joseph as professor, School of Mines and Metallurgy, beginning with the year 1936-37
B.A. 1917, M.A. 1918, University of Utah.
- Kenneth F. Maxcy as professor and head, Department of Preventive Medicine and Public Health, beginning with the year 1936-37
B.A. 1911, George Washington University; M.D. 1915, Johns Hopkins Medical School; Dr. Pub. Hlth. 1921, Johns Hopkins School of Hygiene and Public Health.
- Mervin G. Neale as professor, College of Education, from March 16 to June 15, 1937
B.S. 1911, University of Missouri; M.A. 1917, Ph.D. 1920, Teachers College, Columbia University.
- Hubert J. Sloan as professor, Division of Animal and Poultry Husbandry, beginning with the year 1936-37
B.S. 1926, M.S. 1927, University of Illinois; Ph.D. 1929, Cornell University.
- Maurice B. Visscher as professor and head, Department of Physiology, beginning with the year 1936-37
B.A. 1922, Hope College; M.S. 1924, Ph.D. 1925, M.D. 1931, University of Minnesota.

ASSOCIATE PROFESSORS

- Ernest G. Anderson as visiting associate professor, Division of Agronomy and Plant Genetics, for the winter quarter of 1936-37
B.S. 1915, University of Nebraska; Ph.D. 1920, Cornell University.
- David R. Briggs as associate professor, Division of Agricultural Biochemistry, beginning with the year 1936-37
B.A. 1921, Central College; M.A. 1923, University of Missouri; Ph.D. 1927, University of Minnesota.
- Alice M. Leahy as associate professor of sociology for 1936-37
B.A. 1914, University of Minnesota; Diploma 1924, New York School of Social Work; M.A. 1924, Teachers College, Columbia University; Ph.D. 1935, University of Minnesota.
- T. Raymond McConnell as associate professor, College of Education, beginning with the year 1936-37
B.A. 1924, Cornell College (Mt. Vernon, Iowa); Ph.D. 1933, University of Iowa.
- C. Gilbert Wrenn as associate professor and assistant director of the General College, beginning with the year 1936-37
B.A. 1926, Willamette University (Salem, Oregon); M.A., Ph.D. 1932, Stanford University.

ASSISTANT PROFESSORS

- Doris King Arjona as assistant professor of Romance languages for the year 1936-37
B.A. 1911, University of Michigan; M.A. 1923, Ph.D. 1927, University of Chicago.
- Alan J. Bailey as assistant professor of forestry from December 16, 1936 to June 30, 1937
B.S.F. 1932, M.S.F. 1934, Ph.D. 1936, University of Washington
- Major Coburn L. Berry as assistant professor of military science and tactics beginning September 1, 1936
B.S. Chem. 1916, Worcester Polytechnic Institute.

- Major Edwin L. Brackney as assistant professor of military science and tactics beginning October 1, 1936
M.D. 1915, Hahnemann Medical College.
- William L. M. Burke as assistant professor, Department of Fine Arts, for 1936-37
B.A. 1928, M.A. 1930, M.F.A. 1931, Princeton University.
- Raymond D. Burrough as visiting assistant professor of entomology and economic zoology March 16 to June 15, 1937
B.A. 1924, Nebraska Wesleyan University; M.A. 1925, Princeton University.
- Robert G. Cerny as assistant professor of architecture for 1936-37
B.S. Arch. 1932, University of Minnesota; M.S. Arch. 1933, Harvard University.
- Aaron H. Chute as assistant professor of marketing, School of Business Administration, for 1936-37
B.A. 1916, University of Michigan; M.A. 1931, Ph.D. 1935, Ohio State University.
- Jane Couch as assistant professor of physical education for women for 1936-37
B.S. 1929, Elmira College; M.S. in Phys. Educ. 1931, Wellesley College.
- Ellett M. deBerry, assistant professor in the Department of Medicine in addition to his appointment as assistant professor of preventive medicine and public health in the Medical School, and mental hygienist in the Students' Health Service for 1936-37
B.A. 1920, M.D. 1922, University of Texas.
- Mabel A. Elliott as assistant professor of sociology and general education for 1936-37
B.A. 1922, M.A. 1923, Ph.D. 1927, Northwestern University.
- Ralph V. Ellis as assistant professor in the Department of Medicine in addition to his appointment as assistant professor of preventive medicine and public health in the Medical School and physician in the Students' Health Service 1936-37
M.D. 1916, Barnes Medical College; B.A. 1923, M.A. 1924, Stanford University.
- Millard A. Everett as assistant professor of philosophy for 1936-37
B.A. 1919, William Jewell College; Ph.D. 1929, University of Chicago.
- Andrew Hustrulid as assistant professor of agricultural engineering beginning March 16, 1937
B.E.E. 1931, Ph.D. 1937, University of Minnesota.
- James D. Kelly as assistant professor of physical education and athletics from March 16 to June 15, 1937
B.S. 1920, University of South Dakota.
- Ancel Keys as assistant professor of physiological chemistry on the Mayo Foundation for 1936-37
B.A. 1925, M.A. 1928, Ph.D. 1930, University of California.
- Captain Thomas H. Maddocks as assistant professor of military science and tactics beginning September 1, 1936
M.S. 1922, Yale University.
- Isabel Tilton Noble as assistant professor of home economics for the spring quarter of 1936-37
B.A. 1922, University of Kansas; M.S. 1925, Ph.D. 1930, University of Chicago.
- Alton O'Steen as assistant professor, College of Education, beginning 1936-37
B.A. *magna cum laude*, 1924, Emory University; M.A. Mus. Ed. 1930, Ed.D. 1938, Teachers College, Columbia University.
- George O. Pierce as assistant professor of public health engineering, Department of Preventive Medicine and Public Health in the Medical School from August 16, 1936 to June 30, 1937
B.S. Chem. Eng. 1923, Purdue University.
- Martin H. Roepke as assistant professor of veterinary medicine beginning September 14, 1936
B.S. 1928, Kansas State Agricultural College; M.S. 1929, University of Illinois; Ph.D. 1931, University of Minnesota; M.A. 1933, University of Toronto.
- Skuli Rutford as agricultural conservation specialist with rank of assistant professor in agricultural extension beginning May 16, 1937
B.S. Agr. 1922, University of Minnesota.
- Henry P. Thielman as assistant professor of mathematics for the spring quarter of 1936-37
B.A. 1926, Bluffton College (Ohio); M.A. 1927, Ph.D. 1930, Ohio State University.
- Alfred C. Voegelé as assistant professor of plant pathology and botany for 1936-37
B.S. Agr. 1918, M.S. 1920, University of Illinois; Ph.D. 1935, University of Minnesota.

PROFESSORIAL LECTURERS

- Harry P. Cooper as professorial lecturer, College of Education, for 1936-37
B.A. 1916, Upper Iowa University; M.A. 1925, University of Minnesota.
- Charles E. Shepard as professorial lecturer, Department of Preventive Medicine and Public Health from October 1 to June 30, 1937
B.S. 1919, M.A. 1921, M.B. 1923, M.D. 1924, University of Minnesota.

APPOINTMENTS, 1937-38

PROFESSORS

- Gaylord W. Anderson as professor and head, Department of Preventive Medicine and Public Health, beginning with the year 1937-38
B.A. *summa cum laude* 1922, Dartmouth College; M.D. *cum laude* 1928, Harvard Medical School.
- Herbert Freundlich as professor in the Graduate School
Ph.D. 1933, University of Leipzig.
- J. Charnley McKinley as medical director of psychopathic unit of the University of Minnesota Hospitals beginning with the year 1937-38 in addition to his appointment as professor and head of the Department of Medicine
B.S. 1915, M.A. 1917, M.B. 1918, M.D. 1919, Ph.D. 1921, University of Minnesota.
- John W. Miller as professor of philosophy for the year 1937-38
B.A. 1916, Harvard College; M.A. 1920, Ph.D. 1922, Harvard University.
- Lowry Nelson as professor of rural sociology in Agricultural Experiment Station beginning with the year 1937-38
B.S. 1916, Utah State Agricultural College; M.S. 1924, Ph.D. 1929, University of Wisconsin.
- Arthur Poister as professor of music beginning with the year 1937-38
B. Music, 1925, M. Music, 1931, American Conservatory of Music, Chicago.

ASSOCIATE PROFESSORS

- Huntington Brown as associate professor of English beginning with the year 1937-38
B.A. 1922, Harvard University; B. Litt. 1926, Oxford University; Ph.D. 1930, Harvard University.
- Isabel Noble as associate professor of home economics for the winter and spring quarters of 1937-38
B.A. 1922, University of Kansas; M.S. 1925, Ph.D. 1930, University of Chicago.
- Walter T. Pattison as associate professor of Romance languages beginning with the year 1937-38
B.S. 1925, Harvard College; M.A. 1926, Ph.D. 1931, Harvard University.

ASSISTANT PROFESSORS

- Paul Anderson as assistant professor of civil engineering for the year 1937-38
B.S. Chem. Eng. 1924, Royal Polytechnic Institute (Copenhagen); M.S. 1932, Ph.D. 1934, University of Illinois.
- Clifford P. Archer as assistant professor, College of Education, for the winter and spring quarters of 1937-38
B.A. 1920, Iowa State Teachers College; M.A. 1923, Ph.D. 1927, University of Iowa.
- Margaret G. Arnstein as assistant professor of preventive medicine and public health and supervisor of public health nursing for 1937-38
B.A. 1925, Smith College; R.N. 1928, Presbyterian Hospital School of Nursing; M.A. 1929, Teachers College, Columbia University; C.P.H. 1934, Johns Hopkins University School of Hygiene and Public Health.
- Guy L. Bond as assistant professor, College of Education, for the year 1937-38
B.S. 1931, Columbia University; M.A. 1933, Ph.D. 1935, Teachers College, Columbia University.
- William S. Carlson as assistant professor and principal of the University High School for the year 1937-38
B.A. 1930, M.S. 1933, University of Michigan.
- Robert M. Dolve as assistant professor of mechanical engineering for the year 1937-38
B.S. Mech. Eng. 1907, North Dakota State College; M.S. Mech. Eng. 1919, Cornell University.
- John L. Heller, as assistant professor of classics for the year 1937-38
B.A. 1927, Haverford College; M.A. 1928, Ph.D. 1933, Princeton University.

- Harold P. Klug as assistant professor of inorganic chemistry for the year 1937-38
B.A. 1924, M.A. 1926, Ph.D. 1927, Ohio State University.
- Julius M. Nolte as assistant professor and director of the Center for Continuation Study beginning July 16, 1937
B.A. 1917, Yale University.
- C. Lowell Lees as assistant professor, Department of Speech, for the year 1937-38
B.A. 1926, University of Utah; M.A. 1932, Northwestern University; Ph.D. 1934, University of Wisconsin.
- Carl J. Potthoff as assistant professor of biological studies in the General College for the year 1937-38
B.A. 1926, Hamline University; M.B. 1932, M.D. 1933, University of Minnesota.
- Marvin C. Rogers as assistant professor of chemical engineering from December 16, 1937 to June 15, 1938
B.S. 1926, University of Minnesota; M.S. 1927, Ph.D. 1929, University of Michigan.
- Donald L. Quinsey as assistant professor, College of Education, for the spring quarter of 1937-38
B.S. 1924, M.S. 1931, Ph.D. 1935, University of Illinois.
- Charles W. Rucker as assistant professor of ophthalmology, Mayo Foundation, for 1937-38
B.S. 1923, M.D. 1926, M.S. in Ophthalmology 1929, University of Minnesota.
- Lynn H. Rumbaugh as assistant professor of physics for the year 1937-38
B.A. 1928, Miami University (Ohio); Ph.D. *magna cum laude* 1932, California Institute of Technology.
- Leo T. Samuels as assistant professor of physiological chemistry for the year 1937-38
B.A. 1925, Emmanuel Missionary College (Michigan); Ph.D. 1930, University of Chicago.
- Burtrum C. Schiele as assistant professor of nervous and mental diseases, Department of Medicine, from September 1, 1937 to June 30, 1938
B.A. 1927, Colorado College; M.D. 1931, University of Colorado Medical School.
- Wesley W. Spink as assistant professor of medicine from August 1, 1937 to June 30, 1938
B.A. 1926, Carleton College; M.D. 1932, Harvard University Medical School.
- Gustav Swanson as assistant professor of entomology and economic zoology for the year 1937-38
B.S. 1930, M.A. 1932, Ph.D. 1937, University of Minnesota.
- Russell I. Thackrey as assistant professor of journalism for the year 1937-38
B.S. Jour. 1927, M.S. 1932, Kansas State Agricultural College.
- Wilfred W. Wetzel as assistant professor of geophysics for the fall and winter quarters of 1937-38
B.A. 1928, Ph.D. 1933, University of Minnesota.
- Harold T. Widdowson as assistant professor of trade and industrial education, College of Education beginning spring quarter of 1937-38
B.S. 1926, M.A. 1938, University of Minnesota.

PROFESSORIAL LECTURERS

- Fred Brown as professorial lecturer, College of Education, for spring quarter of 1937-38
B.A. 1929, M.A. 1930, Ph.D. 1933, Ohio State University.
- Ella C. Clark as professorial lecturer, College of Education, for spring quarter of 1937-38
B.S. 1929, M.A. 1930, University of Minnesota.
- Prudence Cutright as professorial lecturer, College of Education, for winter and spring quarters of 1937-38
Ph.B. 1923, University of Chicago; M.A. 1927, University of Minnesota.
- George H. Freeman as professorial lecturer in medicine for the year 1937-38
M.B. 1905, M.D. 1906, University of Minnesota.
- William L. Patterson as professorial lecturer in medicine for the year 1937-38
B.A. 1903, M.A. 1904, Yale University; M.D. 1909, Boston University Medical School.

PROMOTIONS EFFECTIVE 1936-37

Dean, College of Engineering and Architecture and School of Chemistry to Dean of Administration, Institute of Technology:

Ora M. Leland

Professor and Assistant Dean of the College of Education to Professor and Director of the Center for Continuation Study:

Harold R. Benjamin

Professor to Professor and Administrative Assistant:

Lorenz G. Straub (Institute of Technology)

Elting H. Comstock (Institute of Technology)

Professor and Chief to Professor and Chief and Administrative Assistant:

Lee I. Smith (Institute of Technology)

Professor to Professor and Acting Head:

Roy C. Jones (Institute of Technology)

Professor to Dean:

Charles H. Rogers (College of Pharmacy)

Associate Professor and Assistant Dean to Professor and Assistant Dean:

Royal R. Shumway (College of Science, Literature, and the Arts)

Associate Professor and Assistant Director of Educational Research to Professor and Assistant Dean of the College of Education:

Alvin C. Eurich

Professor and Superintendent, Northwest School and Station, to Professor of Agricultural Economics, College of Agriculture, Forestry, and Home Economics:

Austin A. Dowell (beginning April 1, 1937)

Associate Professor to Professor:

Arlie R. Barnes (Mayo Foundation)

Harry H. Bowing (Mayo Foundation)

Wilfrid G. Brierley (College of Agriculture, Forestry, and Home Economics)

Albert C. Broders (Mayo Foundation)

Arthur U. Desjardins (Mayo Foundation)

George Glockler (Institute of Technology)

Stuart W. Harrington (Mayo Foundation)

Norman M. Keith (Mayo Foundation)

Byrl R. Kirklin (Mayo Foundation)

James C. Masson (Mayo Foundation)

Ralph E. Montonna (Institute of Technology)

John de J. Pemberton (Mayo Foundation)

Hobart A. Reimann (Medical School)

Waltman Walters (Mayo Foundation)

Associate Professor to Clinical Professor:

Edgar J. Huenekens (Medical School)

Frederick C. Rodda (Medical School)

Chester A. Stewart (Medical School)

Assistant Professor to Associate Professor:

Edwin G. Bannick (Mayo Foundation)

John D. Camp (Mayo Foundation)

William T. Heron (College of Science, Literature, and the Arts)

James T. Hillhouse (College of Science, Literature, and the Arts)

Roger L. J. Kennedy (Mayo Foundation)

Orianna McDaniel (Medical School)

Ralph O. Nafziger (College of Science, Literature, and the Arts)
 Cecil J. Watson (Medical School)
 Harold A. Whittaker (Medical School)

Assistant Professor to Associate Clinical Professor:

Morris N. Nathanson (Medical School)

Assistant Professor of Surgery and Assistant Director of Division of Urology to Assistant Dean, Associate Professor of Surgery, and Director of Division of Urology

Charles D. Creevy (Medical School)

Assistant Professor to Associate Professor and Superintendent:

Thomas M. McCall (Northwest School and Station) (beginning April 1, 1937)

Instructor to Assistant Professor:

Melvin W. Binger (Mayo Foundation)
 Raymond F. Blount (Medical School)
 Emmert M. Brackney (College of Science, Literature, and the Arts)
 Alex E. Brown (Mayo Foundation)
 Arthur F. Dahlberg (North Central School and Station)
 Austin C. Davis (Mayo Foundation)
 Marcia Edwards (College of Education)
 Theodore H. Fenske (West Central School and Station)
 Thomas P. Hughes (Institute of Technology)
 Stanley V. Kinyon (Law School)
 Franklin H. Knower (College of Science, Literature, and the Arts)
 Emilio LeFort (College of Science, Literature, and the Arts)
 J. Grafton Love (Mayo Foundation)
 Francis W. Lynch (Medical School)
 John F. Madden (Medical School)
 Duncan M. Masson (Mayo Foundation)
 Monte C. Piper (Mayo Foundation)
 James T. Priestley (Mayo Foundation)
 Edward H. Ryneanson (Mayo Foundation)
 Raymond Sletto (General College)
 Frederick L. Smith (Mayo Foundation)
 Walter R. Smith (Physical Education for Men)
 Stanley A. Trengove (Institute of Technology)
 Dwight L. Wilbur (Mayo Foundation)
 Henry L. Williams (Mayo Foundation)
 Harold C. Wittich (School of Dentistry)
 Harry G. Wood (Mayo Foundation)
 Harold Worman (School of Dentistry)

Instructor to Assistant Clinical Professor:

Lawrence R. Boies (Medical School)
 Arthur F. Bratrud (Medical School)
 Martin Nordland (Medical School)

Publicity Specialist and Instructor to Editor and Assistant Professor:

Harold L. Harris (Department of Agriculture)

Lecturer to Assistant Professor:

Edward F. D'Arms (College of Science, Literature, and the Arts)
Howard Longstaff (College of Science, Literature, and the Arts)

Assistant Director to Director:

Ruth E. Boynton (Students' Health Service)

Acting Director to Superintendent:

Ray M. Amberg (University of Minnesota Hospitals)

PROMOTIONS EFFECTIVE 1937-38

Professor to Dean:

John T. Tate (College of Science, Literature, and the Arts)

Professor and Associate Director to Professor and Director:

Donald C. Balfour (Mayo Foundation)

Professor and Superintendent West Central School and Station to Professor and Director of Agricultural Extension Division:

Paul E. Miller (beginning February 1, 1938)

Professor to Acting Dean and Professor:

Wilford S. Miller (Graduate School)
Wesley E. Peik (College of Education)

Associate Professor and Assistant Director to Professor and Assistant Director:

C. Gilbert Wrenn (General College)

Lecturer to Professor:

Jean F. Piccard (Institute of Technology)

Assistant Professor to Assistant Professor and Acting Superintendent:

Theodore Fenske (West Central School) (beginning February 1, 1938)

Associate Professor to Professor:

Thomas F. Barnhart (College of Science, Literature, and the Arts)
Theodore C. Blegen (College of Science, Literature, and the Arts)
George P. Conger (College of Science, Literature, and the Arts)
Winchell McK. Craig (Mayo Foundation)
Albert M. Field (College of Education)
Forrest R. Immer (College of Agriculture, Forestry, and Home Economics)
Ralph K. Ghormley (Mayo Foundation)
Palmer O. Johnson (College of Education)
Charles A. Koepke (Institute of Technology)
Fred A. Krantz (College of Agriculture, Forestry, and Home Economics)
Julian G. Leach (College of Agriculture, Forestry, and Home Economics)
Willem J. Luyten (College of Science, Literature, and the Arts)
Thomas R. McConnell (College of Education)
Henry W. Meyerding (Mayo Foundation)
Ralph O. Nafziger (College of Science, Literature, and the Arts)
Dora V. Smith (College of Education)
George M. Stephenson (College of Science, Literature, and the Arts)
George B. Vold (College of Science, Literature, and the Arts)
Edgar B. Wesley (College of Education)

Hugh B. Wilcox (Institute of Technology)
 Harold K. Wilson (College of Agriculture, Forestry, and Home Economics)

Associate Professor to Clinical Professor:

J. Frank Corbett (Medical School)
 Harry P. Ritchie (Medical School)

Assistant Professor to Associate Professor:

Edgar V. Allen (Mayo Foundation)
 Bryng Bryngelson (College of Science, Literature, and the Arts)
 Mitchell V. Charnley (College of Science, Literature, and the Arts)
 Ellett M. deBerry (Medical School)
 Samuel Eddy (College of Science, Literature, and the Arts)
 Ambert B. Hall (School of Dentistry)
 Arild E. Hansen (Medical School)
 Richard Hartshorne (College of Science, Literature, and the Arts)
 Edward L. Hill (College of Science, Literature, and the Arts)
 Robert S. Hilpert (College of Education)
 Bayard T. Horton (Mayo Foundation)
 Edwin J. Kepler (Mayo Foundation)
 Ancel Keys (Mayo Foundation)
 May S. Kissock (Physical Education for Women)
 Ralph T. Knight (Medical School)
 C. Frederick Koelsch (Institute of Technology)
 Richard L. Kozelka (School of Business Administration)
 Eugene T. Leddy (Mayo Foundation)
 Robert S. Livingston (Institute of Technology)
 Lennox Mills (College of Science, Literature, and the Arts)
 Charles W. Nichols (College of Science, Literature, and the Arts)
 Abe Pepinsky (College of Education)
 David M. Robb (College of Science, Literature, and the Arts)
 W. Martin Sandstrom (College of Agriculture, Forestry, and Home Economics)
 Carl F. Schlotthauer (Mayo Foundation)
 Emerson P. Schmidt (School of Business Administration)
 Herbert Sorenson (General Extension Division)
 Ivol Spafford (General College—General Education Board Fund)
 John H. Williams (College of Science, Literature, and the Arts)

Assistant Professor in College of Science, Literature, and the Arts to Assistant Professor in the Medical School:

Alan E. Treloar

Lecturer to Associate Professor:

Arthur R. Upgren (School of Business Administration)

Assistant Professor to Clinical Associate Professor:

Carl C. Chatterton (Medical School)
 Walter A. Fansler (Medical School)
 Frederic E. B. Foley (Medical School)
 Alexander R. Hall (Medical School)
 James M. Hayes (Medical School)
 Erling S. Platou (Medical School)
 Gilbert J. Thomas (Medical School)

Assistant Professor and Admitting Physician to Clinical Associate Professor and Admitting Physician:

Macnider Wetherby (Medical School)

Instructor to Assistant Professor:

Ernest C. Abbe (College of Science, Literature, and the Arts)
 Wallace D. Armstrong (School of Dentistry)
 Kenneth H. Baker (College of Science, Literature, and the Arts)
 John M. Berkman (Mayo Foundation)
 Clarence L. Cole (North Central School of Agriculture)
 William H. Dankers (College of Agriculture, Forestry, and Home Economics)
 Ivan Doseff (Institute of Technology)
 Carl J. Eide (College of Agriculture, Forestry, and Home Economics)
 Robert E. Fricke (Mayo Foundation)
 Donald C. Heath (Institute of Technology)
 Robert G. Hinckley (Medical School)
 Myrtle P. Hodgkins (School of Nursing)
 Fred L. Kildow (College of Science, Literature, and the Arts)
 John W. Mlinar (Northwest School of Agriculture)
 Mellie F. Palmer (Medical School)
 Olivia Peterson (Medical School)
 Ralph A. Piper (Physical Education and Athletics)
 Ernest B. Sandell (Institute of Technology)
 B. Frederic Skinner (College of Science, Literature, and the Arts)
 Helen Starr (Physical Education for Women)
 H. Burr Steinbach (College of Science, Literature, and the Arts)
 Fred C. Thiers (School of Dentistry)
 John P. Turner (College of Science, Literature, and the Arts)
 Elmer G. Wakefield (Mayo Foundation)
 Bernard A. Watson (Medical School)

Instructor to Clinical Assistant Professor:

Herbert A. Carlson (Medical School)
 Joseph T. Cohen (Medical School)
 Carl B. Drake (Medical School)
 Hendrie W. Grant (Medical School)
 Victor P. Hauser (Medical School)
 Max H. Hoffman (Medical School)
 Charles Hymes (Medical School)
 Carl W. Laymon (Medical School)
 N. Logan Leven (Medical School)
 Adam M. Smith (Medical School)

Lecturer to Clinical Psychologist and Assistant Professor Psychopathic Unit:
 Starke Hathaway (Medical School)

Research Counselor and Instructor to Research Counselor and Assistant Professor:
 John G. Darley (General College)

Professorial Lecturer to Assistant Professor
 Lucy Heathman (Medical School)

LEAVES OF ABSENCE, 1936-37

- Clyde H. Bailey, professor of agricultural biochemistry, with salary from October 22 to November 22, 1936, to attend the International Congress on Bread Production at Leipzig, Germany.
- Roy G. Blakey, professor, School of Business Administration, without salary from September 16, 1936 to June 15, 1937, to continue work as director of Economic Research Bureau of Foreign and Domestic Commerce, Washington, D.C.
- Charles W. Boardman, professor and director of student teaching, University High School, sabbatical furlough for winter and spring quarters of 1936-37, for study and travel in the United States and England.
- Leo J. Brueckner, professor, College of Education, without salary for fall quarter of 1936-37, to direct survey of elementary education for the Regents' Inquiry into the Cost and Character of Education in the State of New York.
- Rodney B. Harvey, professor of plant pathology and botany, without salary for 1936-37, to do research work for Florida Citrus Commission.
- Albert E. Jenks, professor and chairman, Department of Anthropology, sabbatical furlough for winter quarter of 1936-37, for further research.
- Clifford Kirkpatrick, professor of sociology, sabbatical furlough for 1936-37, to accept a Guggenheim Fellowship for study in Germany.
- Esther McGinnis, professor, Institute of Child Welfare, without salary for the spring quarter of 1936-37, for study at New York School of Social Work.
- Wylle B. McNeal, professor and head, Department of Home Economics, sabbatical furlough from January 1 to May 31, 1937, for travel and study in the United States.
- Wesley E. Peik, professor, College of Education, without salary for fall quarter of 1936-37, to participate in Regents' Inquiry into the Cost and Character of Education in the State of New York.
- Frank M. Rarig, professor, Department of Speech, sabbatical furlough for 1936-37, for writing and study abroad.
- Edward H. Sirich, professor of Romance languages, sabbatical furlough for 1936-37, for travel and study in France, Spain, and Italy.
- Clinton R. Stauffer, professor of geology, sabbatical furlough for 1936-37, for research work in Lake Erie district and Coastal Plain area.
- K. Wilhelm Stenstrom, professor of physiology, with salary from July 20 to August 31, 1936, to visit radiology centers in Europe.
- Gertrude M. Baker, associate professor of physical education for women, sabbatical furlough for 1936-37, for work towards Doctor's degree.
- Clara M. Brown, associate professor of home economics, without salary from January 16 to March 15, 1937, to serve as consultant on home economics for the President's Committee on Vocational Education, Washington, D.C.
- Theodore A. Erickson, state leader of Boys' and Girls' Club work with rank of associate professor in agricultural extension, with salary from January 4 to 31, 1937, on account of illness.
- Charles A. Koepke, associate professor of mechanical engineering, leave for half time without salary from October 7 to December 15, 1936, to conduct a study for the Employment Stabilization Research Institute.
- Morris N. Nathanson, associate clinical professor, Department of Medicine, without salary from October 1, 1936 to June 30, 1937, to go to California.
- Julia O. Newton, state leader of home demonstration with rank of associate professor in agricultural extension, continuation of leave without salary from August 1, 1936 to November 30, 1937, to continue work for Farm Credit Administration.
- George O. Pond, associate professor of agricultural economics, part-time leave of absence for 32 per cent time, without salary from October 1, 1936 to April 14, 1937.
- Dora V. Smith, associate professor, College of Education, without salary from November 1 to 15, 1936, and on half pay from February 16 to March 15, 1937, to assist in Regents' Inquiry into the Cost and Character of Education in the State of New York.
- Gertrude Vaile, associate professor of sociology, sabbatical furlough for fall quarter of 1936-37, to study problems of public welfare in London and Scandinavian countries.
- John A. Urner, associate professor of obstetrics and gynecology, sabbatical furlough from February 1 to July 31, 1937, for research at the University of Chicago.

- James S. Webb, associate professor of electrical engineering, sabbatical furlough for 1936-37, for study and travel in Europe and America.
- C. Gilbert Wrenn, associate professor and assistant director of the General College, with salary from April 6 to June 15, 1937, to survey the materials of the Adolescent Study of the Progressive Education Association and the American Youth Commission studies, and correlate our own studies with them.
- Elizabeth Atkins, assistant professor of English, without salary for the spring quarter of 1936-37, without jeopardizing claim to sabbatical furlough, to work on a book.
- Eva L. Blair, nutrition specialist with rank of assistant professor in agricultural extension, sabbatical furlough from September 16, 1936 to September 15, 1937, for study at Columbia University.
- Edith Boyd, assistant professor of anatomy, on half pay from May 1 to June 15, 1937, for rest.
- Ralph H. Brown, assistant professor of geography, sabbatical furlough for 1936-37, for research work in the historical geography of North America.
- Eula B. Butzerin, assistant professor and supervisor of public health nursing, without salary from January 16 to 31, 1937, on account of illness in her family.
- Muriel B. Carr, assistant professor of English, sabbatical furlough for 1936-37, for research, preparation of courses, and travel abroad.
- Ralph W. Dawson, assistant professor of zoology, sabbatical furlough for 1936-37, for research work in the United States.
- Frances Dunning, assistant professor and manager of the dining hall, Division of Home Economics, sabbatical furlough from January 16 to March 31, 1937, for study and travel.
- Marcia Edwards, assistant professor, College of Education, without salary from December 16, 1936 to March 15, 1937, to conduct a study of graduate schools for the Carnegie Foundation for the Advancement of Teaching.
- Allan Hemingway, assistant professor of physiological chemistry, sabbatical furlough for 1936-37, for study at Yale University.
- Robert A. Kissack, assistant professor of visual education, without salary from April 16 to September 30, 1937 and from December 5, 1937 to January 31, 1938, without jeopardizing claim to a sabbatical furlough, to accept a General Education Board fellowship for study of motion picture production methods in Hollywood and in New York.
- Lennox A. Mills, assistant professor of political science, sabbatical furlough for 1936-37 for study and travel, to gather college material for a book containing a comparative study of the post-war situation in Hong-Kong and British Malaya with comparisons and contrasts drawn from the Philippines and Java.
- Frances M. Money, assistant professor and director, Social Service Department, University of Minnesota Hospitals, with salary from July 29 to August 15, 1936, to attend the International Conference of Social Workers in London and to visit social institutions and agencies arranged by the International Conference.
- Jesse H. Neal, assistant professor of agricultural engineering, sabbatical furlough from September 1, 1936 to August 31, 1937, to work for Doctor's degree at the University of Missouri.
- Ernest S. Osgood, assistant professor of history, sabbatical furlough for 1936-37, for research work in western history of the United States.
- Julius Romness, assistant professor of agricultural engineering, with salary from January 4 to 23, 1937, on account of illness.
- James J. Ryan, assistant professor of mechanical engineering, without salary, for the spring quarter of 1936-37, without jeopardizing claim to sabbatical furlough, to make investigations concerning high speed machinery for the Allis-Chalmers Company, Milwaukee, Wisconsin.
- Emerson P. Schmidt, assistant professor, School of Business Administration, without salary for the fall quarter of 1936-37, to accept position as forum leader in connection with Adult Education Project in Minneapolis under the auspices of the United States Office of Education.
- Ivol Spafford, assistant professor of eutenics, General College, without salary from September 16, 1936 to January 15, 1937, to make a study of teaching of eutenics and home life in institutions of higher education throughout the country, sponsored by the General Education Board.

Alan E. Treloar, assistant professor of botany, sabbatical furlough for 1936-37, for research work in vital statistics required in the teaching of preventive medicine and public health.

Stanley A. Trengove, assistant professor, School of Mines and Metallurgy, without salary May 1 to June 15, 1937, without jeopardizing claim to a sabbatical furlough, for work with Oliver Mining Company at Hibbing, Minnesota.

LEAVES OF ABSENCE, 1937-38

William Anderson, professor and chairman, Department of Political Science, sabbatical furlough for fall quarter of 1937-38 to complete a work on American Government for college classes.

Joseph W. Beach, professor of English, sabbatical furlough for spring quarter of 1937-38 for study and writing.

Leo J. Brueckner, professor, College of Education, sabbatical furlough for the spring quarter of 1937-38 for European travel and study.

Frank E. Burch, professor and head, Department of Ophthalmology and Otolaryngology, without salary from November 16, 1937 to March 15, 1938 to represent University of Minnesota at International Congress of Ophthalmology at Cairo, Egypt, and visit clinics in European medical centers.

Ralph D. Casey, professor and chairman, Department of Journalism, sabbatical furlough for 1937-38 to accept a Guggenheim Fellowship for study abroad.

Hans H. Dalaker, professor of mathematics and mechanics, with salary from October 25 to December 19, 1937 on account of illness.

Katharine J. Densford, professor and director, School of Nursing, sabbatical furlough from August 16, 1937 to June 15, 1938 for study and travel abroad.

Robert G. Green, professor of bacteriology, sabbatical furlough for 1937-38, for study abroad.

Albert E. Jenks, professor of anthropology, sabbatical furlough for the winter quarter of 1937-38 to investigate important new prehistoric sites in Oklahoma, Texas, New Mexico, Arizona, and California.

Samuel Kroesch, professor and chairman, Department of German, leave with salary for spring quarter of 1937-38 on account of illness.

Ralph E. Montonna, professor of chemical engineering, sabbatical furlough for 1937-38 for travel and study abroad.

Lowry Nelson, professor in Agricultural Experiment Station, with salary from January 10 to March 10, 1938 to serve as United States representative on the Permanent Agricultural Committee of the International Labor Organization of the League of Nations at Geneva, Switzerland.

Leo G. Rigler, roentgenologist and professor, X-Ray Department, sabbatical furlough from November 1, 1937 to April 30, 1938 to make study of departments of radiology in the United States.

Lloyd M. Short, professor of political science, without salary from December 1-15, 1937 without jeopardizing claim to sabbatical furlough, to prepare report with recommendations on educational program of Institute of Local Government of the University of Pennsylvania.

Dora V. Smith, professor, College of Education, sabbatical furlough for spring quarter of 1937-38 to prepare manuscripts for press.

David F. Swenson, professor, Department of Philosophy, sabbatical furlough for 1937-38 for study and research.

Warren C. Waite, professor of agricultural economics, without salary from September 1 to 26, 1937, to serve as economic adviser to Provincial Government of Alberta in the preparation of a brief to be presented to the Royal Commission of Inquiry into the Financial Relations between the Dominion and the Provinces.

Albert C. Arny, associate professor of agronomy and plant genetics, with salary from June 24 to August 31, 1937 to attend International Grassland Congress in Great Britain from July 8-23, 1937, and to review grass and pasture work at different experiment stations in England, Scotland, the Scandinavian countries, Germany, Austria, and France.

Alice M. Child, associate professor of home economics, with salary January 18 to March 15 and May 1 to June 15, 1938 and without salary March 16 to April 30, 1938 on account of illness.

John W. Gruner, associate professor of geology, without salary for 1937-38 for geological investigation work in Germany.

- James T. Hillhouse, associate professor of English, sabbatical furlough for the winter and spring quarters, 1937-38 for study at the Huntington Library, San Marino, California.
- Charles A. Koepke, associate professor of mechanical engineering, sabbatical furlough for the fall and winter quarters of 1937-38 to write a textbook on Plant Production Control.
- Willem J. Luyten, associate professor of astronomy, sabbatical furlough for 1937-38 to accept a Guggenheim Fellowship for study abroad at the University of Leiden, Holland.
- Isabel Noble, associate professor of home economics, without salary March 16 to June 15, 1938 for work on a book in co-operation with Evelyn Halliday of the University of Chicago.
- Adolph R. Ringo, associate professor of zoology, sabbatical furlough for 1937-38 for travel and research.
- Lawrence D. Steefel, associate professor of history, sabbatical furlough for 1937-38 for travel and study abroad.
- Gertrude Vaile, associate professor of sociology, sabbatical furlough for winter and spring quarters of 1937-38 to be spent primarily in Australia on public welfare problems.
- John A. Urner, associate professor, obstetrics and gynecology, on half salary April 1 to June 30, 1938 on account of illness.
- Ellett M. deBerry, assistant professor of preventive medicine and public health and mental hygienist in Students' Health Service, sabbatical furlough for 1937-38 for study and travel in Europe.
- Samuel N. Dicken, assistant professor of geography, sabbatical furlough for 1937-38 to study the geography of Northeastern Mexico.
- Marcia Edwards, assistant professor, College of Education, leave without salary for spring quarter of 1937-38 without jeopardizing claim to sabbatical furlough to conduct study of graduate schools for the Carnegie Foundation for the Advancement of Teaching.
- Cecilia H. Hauge, superintendent of nurses and assistant professor, School of Nursing, sabbatical furlough from August 10, 1937 to May 31, 1938, for travel and study.
- Mary M. Miller, assistant professor and home management specialist in agricultural extension, sabbatical furlough from September 1, 1937 to August 31, 1938, to study for Master's degree.
- Elizabeth Nissen, assistant professor of Romance languages, sabbatical furlough for 1937-38 for study abroad.
- Frederick L. Pfeiffer, assistant professor of German, sabbatical furlough for 1937-38 to prepare for publication a monograph on the Romantic Movement in German Literature.
- Henry A. Pflughoeft, district club agent with rank of assistant professor in Agricultural Extension, without salary March 16 to April 15, 1938 on account of illness.
- Catherine Snell, assistant professor, Department of Physical Education for Women, sabbatical furlough for 1937-38 for study at Columbia University.
- Henry N. Stephens, assistant professor of chemistry, without salary for 1937-38 to accept position as director of research in divisions of the Minnesota Mining and Manufacturing Company of St. Paul.
- Stanley A. Trengove, assistant professor of mines and metallurgy, without salary for 1937-38 to accept position with Oliver Iron Mining Company at Hibbing, Minnesota.
- Edmund G. Williamson, assistant professor and director University Testing Bureau without salary February 7 to March 7, 1938, to serve as adviser to College of Arts and Sciences at University of Illinois in the development of a personnel program and organization of a personnel bureau.

DEATHS

It is with deep regret and a profound sense of loss that these deaths during the biennium are recorded:

CARL M. ANDERSON

1881-1937

Dr. Carl M. Anderson was born in Scandinavia, Waupaca County, Wisconsin, November 7, 1881. He received his secondary education at the Scandinavia Academy, and then attended Marquette University in Milwaukee from 1907 to 1911. He received the degree of M.D. Dr. Anderson practiced in Wild Rose, Wisconsin, from 1911 to 1921. During the war he was commissioned first lieutenant in the Medical Reserve Corps.

Dr. Anderson entered the Mayo Foundation January 3, 1921, as a special student in otolaryngology. He became first assistant in the section on Otolaryngology and Rhinology, the Mayo Clinic in January, 1924, and associate in 1925. He was appointed instructor in otolaryngology in 1925 and assistant professor of otolaryngology in 1929, the Mayo Foundation. He has written articles on otolaryngological subjects in the last twelve years.

Dr. Anderson was a member of the American Medical Association, the Alumni Association of the Mayo Foundation, the Southern Minnesota Medical Association, the American Academy of Ophthalmology and Otolaryngology, the American Laryngological, Rhinological, and Otological Society, the Minnesota Academy of Medicine, and Sigma Xi.

Dr. Anderson died at his home August 10, 1937. He was a scholar and a good colleague. Such men are always missed.

NELS ANDREAS ANDERSON

1878-1937

Nels Andreas Anderson was born in Norway, July 28, 1878. When ten years of age, he emigrated to America and settled with his people in northern Wisconsin. He earned his early living by working in Wisconsin sawmills.

Mr. Anderson was educated in the schools of his own state and received his B.A. degree from the University of Wisconsin in 1909. In 1918 he received his M.A. degree from the University of Chicago. Later he did graduate work in education at the University of Wisconsin.

For many years Mr. Anderson taught in Wisconsin schools as principal and supervising principal. In 1919 he became associated with the Extension Division of his state university and was district manager of the Eau Claire district for about eight years.

In the fall of 1928 Mr. Anderson accepted an appointment from the University of Minnesota with the rank of instructor in the General Extension Division. He was employed as field representative for the division, visiting schools and colleges in the interest of the varied extension services, such as the Lyceum and Lecture Bureau, Correspondence Study Department, and Visual Education. He died on November 20, 1937.

Mr. Anderson made substantial contributions toward the expansion and improvement of all the services with which he was associated and made friends for the institution wherever he went. He possessed the rugged virtues of his Viking ancestors. He was thoroughly dependable and conscientious in all his work, and was held in high esteem by all who knew him.

RICHARD OLDING BEARD

1856-1936

Dr. Richard Olding Beard was born in England in 1856, and came to the United States at the age of thirteen. In 1882 he graduated from the School of Medicine of Northwestern University; he then came to Minneapolis to engage in the practice of medicine.

In 1883 Dr. Beard became connected with the Minnesota Hospital Medical College. This marks the beginning of his career in medical education, which together with nursing education and public health became his major interests. He was active in the steps and measures taken for bringing together at the University of Minnesota the proprietary medical colleges of the state. In 1888 Dr. Beard became professor of physiology at Minnesota in which capacity he served until he

reached the retirement age in 1925, when he became professor emeritus. Dr. Beard also served as head of the Department of Physiology from 1888 to 1913 and was secretary of the Medical School almost continuously from its founding until 1920. He was at one time president of the Minnesota Academy of Medicine and was an honorary member of the National League of Nursing Education. He also served as assistant commissioner of health in Minneapolis from 1886 to 1889.

Among the measures receiving the active support of Dr. Beard the following may be cited: The campaign for the new enlarged medical campus and buildings, including the hospital; the admission of nursing to full university recognition; the organization in the University of graduate medical teaching; the establishment of the Mayo Foundation for medical education and research; the adoption of the full-time plan in clinical departments; the gradual enlargement of the budget and strengthening of the teaching staff. To him must also be given the fullest credit for the founding of the first university school of nursing.

It is thus evident that in the passing of Dr. Beard on August 14, 1936, the University has lost one of its pioneers. His sturdiness of character, his conscientious attitude towards the details of his responsibilities, and his deep concern for the health welfare of the people were qualities which made him a valuable servant of the University and the state.

SHERMAN WILLIAM FINGER

1883-1937

Sherman William Finger was born on May 4, 1883, in Oshkosh, Wisconsin. He attended Yankton College and Chicago University where he received a Ph.B. degree in 1907. While a student at the University of Chicago he was active in all phases of athletics and gained wide recognition as a member of the football and track teams.

In 1907 he was appointed professor of physical education, director of athletics, and coach of football, basketball, and track at Cornell College, Mount Vernon, Iowa, which position he held until 1924. During the World War he served as athletic director for the Y.M.C.A. in connection with the American Air Service in France and with the American Army of Occupation in Germany, and was a member of the A.E.F. track coaching staff for the Inter-Allied games.

In 1924 he came to Minnesota as associate professor of physical education and head track coach, which positions he held at the time of his death on March 7, 1937.

During his 30 years of service in the field of physical education and athletics he exerted a profound influence upon the lives of the thousands of young men with whom he came in contact. He made a valued and lasting contribution in his field and his passing is a distinct loss to education.

INA TEN EYCK FIRKINS

1866-1937

Ina Ten Eyck Firkins, who died July 16, 1937, was born June 9, 1866 and graduated from this University in 1888 with the degree of B.L. The next year she became an assistant in the University Library, which at that time was under the direction of former President William Watts Folwell. She served continuously as a member of the library staff until 1932, when she retired voluntarily in order to devote more time to travel and personal interests. This term of forty-three years exceeded by six years that of Dr. Folwell as librarian. No other member of the staff had so long service or so intimate and personal knowledge of the University Library or its history.

During the year 1920-21, following the resignation of James T. Gerould as university librarian, Miss Firkins served as acting librarian, resuming her position as reference librarian, with the rank of associate professor, in September, 1921. The nature of her work and her long term of service had given Miss Firkins personal contact with perhaps more students of this University, both graduate and undergraduate, than any other member of the university library staff.

In addition to her regular library work, Miss Firkins was well known as a bibliographer. Her *Index to Short Stories* is a standard reference book in libraries throughout the United States and abroad. Although the growth of the library

made it impossible to preserve the close contacts of its earlier days, Miss Firkins never lost her personal attitude toward her work. She was never institutional and all that she did was marked by strong individualism and intense loyalty toward her circle of chosen friends. Miss Firkins was a link between the old University and the new. Her death leaves a place that cannot be filled.

MELVIN EVERETT HAGGERTY

1875-1937

Melvin Everett Haggerty died on October 6, 1937. He was born at Bunker Hill, Indiana, January 17, 1875. His early education was obtained in his native state, and his higher education—interrupted by intervals of teaching—was divided between the University of Indiana and Harvard University. The death of a man as forceful as Dean Haggerty inevitably comes as a disturbing and chilling shock to all his associates.

The following tribute and interpretation, written by Professor A. C. Krey—friend and colleague—which originally appeared in *School and Society*, so aptly catches the spirit of Dean Haggerty's active life and mind that it is reprinted here:

The death of Melvin Everett Haggerty marks the passing of one more of the remarkable group of nationally famous educators trained at the University of Indiana in the last quarter of the nineteenth century. At the time of his death he was dean of the College of Education of the University of Minnesota, a position which he had occupied for seventeen years. He had won a distinguished place among the leaders of education in the nation. His advice and counsel were sought on most of the important questions arising in the profession, and his leadership was followed increasingly in the solution of a number of these problems. He had the imaginative qualities necessary to appraise the impact of new forces and the ability to express his views in polished as well as forceful language. He seemed, indeed, at the height of his powers when his fatal illness suddenly ended his career.

Like so many others of that distinguished group of Hoosier educators, he began his career in a rural school of his native state. In college his consuming interest was in psychology and philosophy, although history, English, architecture, and science were ever a challenge to him. His first teaching experience was in English. Ambition led him on into graduate work in the fields of his major interest, and though circumstances forced a delay in his pursuit of the doctorate, he obtained his degree in 1910. He did his graduate work at the University of Chicago and at Harvard University, receiving both the M.A. and the Ph.D. degrees from the latter university. During these years, he delved still more deeply into both philosophy and psychology, under the stimulation of such scholars as William James, Royce, Palmer, Muensterberg, Yerkes, and Santayana, the philosophic and scientific modes of thought supplementing one another in his approach to educational problems. Among his earliest publications was a series of articles on animal intelligence. Upon the attainment of his doctorate, he was invited to a position in the department of psychology of his alma mater. He rose rapidly in the academic hierarchy at the University of Indiana, but was called away to head the department of educational psychology at the University of Minnesota in 1915.

The development of educational measurement under the brilliant leadership of E. L. Thorndike attracted his attention, and he soon became a leading worker in this field. The world war afforded him the opportunity to apply this learning on a wider scale, and he was one of those who worked most earnestly to aid in the re-education of disabled soldiers. He left the service with the rank of lieutenant-colonel, O.R.C., on being called to participate in the Virginia Survey, after which he resumed his work at the University of Minnesota in 1919. In 1920 he took up his administrative duties as dean of the College of Education at Minnesota, the position which he continued to hold to the time of his death.

Despite the new administrative duties which became increasingly heavy as time wore on, he continued his interest both in teaching and research. His publications, which had become numerous during his professorship at

Minnesota, continued after he became dean. They dealt primarily with problems of educational measurement, including both intelligence tests and tests of achievement in various school subjects. His intelligence test, Delta II, and his tests of reading became standard and are still widely used. He extended his interests with the wider responsibilities of his administrative duties and, in 1924, became chairman of the University Committee on Educational Research, under whose auspices the scientific study of instructional and curricular problems as well as educational testing and measurement was applied to college teaching in nearly all parts of the University of Minnesota. He held this position to the end of his career, not only directing the work of many others, but continuing to share actively in that work himself. It was doubtless because of this interest that he was able to take so large a share in the study of the evaluation of higher institutions of learning in the North Central Association of Colleges. The three volumes on this subject published by the University of Chicago Press mark the climax of his work in measurement. This was no longer measurement in the narrow sense restricted to test results, but a much more comprehensive inclusion of all pertinent factors conducive to successful higher education. So strong was his interest in this field of scholarship, however, that it was his secret ambition to retire from administrative work and devote himself exclusively to it, an ambition not to be realized.

His responsibilities as an administrator brought him into intimate touch with the educational problems of state and nation. As a member of the chief organizations of educational leaders, his abilities became increasingly recognized, and he concerned himself naturally with many new aspects of education. Under these influences, his viewpoint broadened and continued to develop throughout these years. It came to include the larger problems of society and, indeed, the whole question of the good life. While his attack upon the "Conclusions and Recommendations" of the Commission on the Social Studies in the Schools, largely provoked by that commission's attack upon educational measurement, will long remain a masterpiece of invective in educational discussion, few educators strove more clearly to realize the goal of true educational statesmanship which that very commission recommended than he did in his last few years. Perhaps the fullest expression of this development is to be found in the Owatonna Art Project, which he so largely conceived and directed with the help of the Carnegie Foundation. In this project he did not think of education as confined to the schools, but rather as something intimately related to the life of the whole community. He brought to bear upon this experiment the ripe fruits of his own widened experience and study, as is revealed in an essay, completed just before his death, describing that project, called "The Enrichment of the Common Life."

Some of his characteristics as administrator can be explained by his devotion to scholarship, a devotion which led him to persist in his labors despite all the distractions occasioned by his position as dean. It was not easy for him to delegate responsibility, either in assigning tasks or in seeking advice. He continued to keep the scholar's sense of concern about everything with which his name was connected and accepted full responsibility for all that he did.

He was conscientiously interested in all phases of his administration, whether pertaining to staff, graduate students, or even to the undergraduates enrolled in his college. Few administrators have been as generous in their encouragement of the professional improvement of members of their staff, even when that involved their temporary absence on research projects or in presenting the results of their researches. He adhered to this policy, though time and time again it exposed them to tempting offers of positions elsewhere. Frequently these offers were so attractive that he could not marshal the resources to offset them. Few deans have had their faculties so frequently or so thoroughly raided by other institutions able to offer greater financial inducements. The success with which he sought out new scholars to refill the positions thus left vacant was an equally conspicuous mark of his administration.

He was generous likewise in his concern about graduate students or instructors just beginning their careers, always taking genuine pleasure in discovering promising young scholars. He therefore tried to give them

every opportunity to realize their promise and took great pride in their success, being especially pleased to have the students whom he had helped to train achieve marked success at other institutions. Though his judgment naturally erred at times, the sustained demand for the scholars whom he discovered or trained offers the highest tribute to its essential soundness. His interest in discovering and aiding promising teachers and scholars extended even to the undergraduates. Despite the large number of students enrolled in his college, he and Mrs. Haggerty regularly found the time to entertain the honors students at their home, as well as to give a reception to all the graduating seniors.

His loss to the educational world will long be felt, as his services to it become more fully appreciated. For the many thousands who have known him only in his work, the loss will be purely a professional one. For the many hundreds who knew him more intimately, who had joined with him in his revival of old Christmas carols, or had enjoyed the gracious hospitality of his home, the loss is also a deeply personal one.

ELIAS POTTER LYON

1867-1937

Elias Potter Lyon became connected with the University of Minnesota when in 1913, he was called as professor of physiology and dean of the Medical School.

Previous to this time he had served as assistant professor of physiology at Rush Medical College from 1900 to 1904, as assistant professor of physiology and assistant dean at the University of Chicago from 1901 to 1904 after which he became professor of physiology at the University of St. Louis, and in 1907 dean of the Medical School of that university, in which capacity he served until called to Minnesota.

Dean Lyon was born in Cambria, Michigan, on October 20, 1867. He graduated from Hillsdale College in Michigan in 1891, receiving the degree B.S., and then entered the University of Chicago, where he studied and carried on researches under the guidance of Dr. Jacques Loeb. He received the degree of Ph.D. from the University of Chicago in 1897. In 1910 the University of St. Louis conferred on him the honorary degree M.D. and in 1920 that university also conferred on him the degree of LL.D. He received the honorary degrees D.Sc. from Hillsdale College in 1924 and from the University of California in 1930.

He was president of the Association of American Medical Colleges during 1913 and 1914 and chairman of the section of Pathology and Physiology of the American Medical Association during 1934 and 1935.

Dean Lyon, after serving Minnesota as dean of the Medical School for 24 years, retired as dean emeritus in June, 1936. He died on May 24, 1937 at Trafford, Pennsylvania.

When Dean Lyon was called to assume the duties as administrative head of the Medical School at Minnesota, the stage was set for a transition from the older to the newer methods in medical education. Under his guidance the transition was rapid, both in teaching and research, and the school soon took its place among the leaders in medical education in the United States.

The Departments of Anatomy and Physiology were enlarged and strengthened. The Departments of Pharmacology and later, Bacteriology, were established as separate departments. Physiological Chemistry was added as a separate division with an enlarged staff. As time went on, the clinical departments were placed largely on a full-time basis with enlarged staffs of scientific clinicians. Under his leadership the Medical School acquired an atmosphere of productive scholarship.

Dean Lyon brought to Minnesota the ideals of his teacher, Professor Jacques Loeb. These ideals were his guide, and through these, reinforced by his spirit of co-operation, his sympathy, and sound judgment, he has earned the esteem of his colleagues and the gratitude of this commonwealth.

ROBERT WELCH MURCHIE

1883-1937

Robert Welch Murchie came to the University of Minnesota in 1931 as professor of rural sociology. Twice previously he had left his position as professor of rural economics and sociology at the Manitoba Agricultural College to accept

temporary appointments at Minnesota, as instructor in sociology in 1925, and as assistant professor in 1928. Born in Troon, Scotland, on May 30, 1883, Professor Murchie prepared for college at the Irvine Royal Academy. In 1906 he received the Master's degree from the University of Glasgow. His Ph.D. was taken in sociology at the University of Minnesota in 1927.

Dr. Murchie taught at Union College, Glasgow, held rural pastorates in Canada for six years, and had been at the University of Manitoba for sixteen years prior to his permanent appointment at the University of Minnesota.

Soon after Dr. Murchie came permanently to Minnesota, he began to take an active part in the problems of rural living in the state. He was successively director of the C.W.A. and E.R.A. recreation programs in 1934. In 1934 and in 1935, he served as director of rural rehabilitation for the state and had general direction of the relief of drought victims in the western counties of Minnesota. This was an important assignment and a heavy responsibility. During the years in which his leadership of these reconstructive efforts took place, he was also special consultant on rural rehabilitation and an adviser to the various federal relief agencies in Washington. Governor Floyd B. Olson appointed him as one of the university members of the State Planning Board. He served two years in this capacity. At the time of his death, on April 20, 1937, he had served two years as president of the Minnesota Rural Rehabilitation Corporation, an agency that continued to administer the affairs of rural rehabilitation which needed direction during the years that followed the swift catastrophe of the drought.

Dr. Murchie was a man of attractive personality and great integrity of character. His keen but always kindly sense of humor was a perpetual source of delight to those who knew him well. He was widely trusted and respected by students, professional colleagues, farmers, politicians, government executives, in short, by men in all walks of life. They respected him as a man and as a scholar. Those who knew him best appreciated the subtlety of his mind and the wisdom of his judgments of men and social situations. For him his students and colleagues felt a sense of real affection and his untimely death that came so suddenly at the height of his powers brought a loss to the University that will long be felt.

HENRY STANLEY PLUMMER

1874-1936

Dr. Henry Stanley Plummer, scientist, physician, a member of the staff of the Mayo Clinic for thirty-five years, and for twenty-two years professor of medicine in the Mayo Foundation, University of Minnesota, died at his home in Rochester, Minnesota, on December 31, 1936, at the age of sixty-two years.

Dr. Plummer was born on March 3, 1874 in Hamilton, Minnesota. He received his premedical training at the University of Minnesota and received the degree M.D. from Northwestern University in 1898. Upon graduation he engaged in the practice of medicine at Racine, Wisconsin, and in 1901 entered the Mayo Clinic where he was a pioneer in the development of roentgenology and electrocardiography. Dr. Plummer devoted most of his time at the clinic to the improving of methods for general medical diagnosis. He made a special study of the thyroid gland. His studies on the effect of iodine in the treatment, without operation, of exophthalmic goiter aided in the marked reduction in mortality from this disease.

Dr. Plummer was a member of the Minnesota State Medical Association, the Olmstead-Houston-Filmore-Dodge County Medical Society, the Minnesota Pathological Society, the Southern Minnesota Medical Association, the Central Inter-urban Clinical Club, the Minnesota Society of Internal Medicine, the Central Society for Clinical Research, and the Minnesota Horticultural Society.

He was a fellow of the American College of Physicians, a fellow of the American Medical Association, and held a membership in the following: the Association of American Physicians, the Association for the Study of Internal Structure, the American Association for the Advancement of Science, the American Association for the Study of Goiter, the American Gastro-Enterological Association, the Medical Library Association, the American Association for Thoracic Surgery, the American Public Health Association, the Royal Society of Arts, Sigma Xi, and Alpha Omega Alpha. He was president of the Association for the Study of Goiter during the year 1933, and in 1935 Northwestern University conferred on him the degree of D.Sc. (*honoris causa*).

Dr. Plummer was a man of great mechanical genius and artistic taste. Of this the new clinic building at Rochester is evidence. He was a man of a wide field of interest, leading him even to experimentation in horticulture; he was widely read in other fields than medicine. He stood for high professional standards, coupled with an uplifting cultural influence. The commonwealth of Minnesota is better for his having lived.

JULIUS ROMNESS

1897-1937

Julius Romness was a native of Minnesota, and his life work—cut all too short by his death on January 22, 1937—centered in this state of his birth. He was born at Warner in Kandiyohi County, July 22, 1897. He graduated from the University of Minnesota in 1922, and received his M.A. degree in 1934. He first joined the faculty of the Department of Agriculture in 1924, as assistant professor of agricultural engineering, in charge of physics.

Professor Romness was always intensely interested in his work and he was highly regarded by his students and his colleagues. His sound grounding in his fields of specialty led others to consult with him. During three summer periods he was granted leave of absence in order that he might do special work on water supply and sanitation problems for the State Board of Health. He also gave much study to the problem of rural electrification. He was active in research work on the Red Wing rural electrification project between 1923 and 1928. All of these activities were but the outward expression of his basic interest in the improvement of living in farm homes.

NORMAN WILDE

1867-1936

Norman Wilde became connected with the Department of Philosophy of the University of Minnesota in 1898, and became professor of philosophy and head of the department in 1902. He retired as head of the department in June, 1935 and fully retired in June, 1936, when he became professor emeritus. He died on December 25, 1936.

Professor Wilde was born at Dobbs Ferry, New York, in 1867. He attended Columbia University, Harvard University, and the University of Berlin. In 1894 Columbia conferred on him the degree of Ph.D. and again in 1929 conferred on him the honorary degree Litt.D.

Professor Wilde's career is marked by the publication of twenty-five or more articles in the technical periodicals of his profession, and by the authorship of two books: one on Friedrich Heinrich Jacobi, and another entitled *The Ethical Basis of the State*. His interests were chiefly in ethical and political philosophy with special reference to the state. His passing has in it an element of tragedy and frustration, since he was at work at the time on what promised to be an important treatise.

As a teacher he was clear, persuasive, and fundamental, eschewing showiness. He had a quiet, modest, and nonaggressive manner. Unexpectedly he would illuminate a situation with a delightful flash of wit. His personality was sound, wholesome, faithful, real, considerate, friendly, and imbued with a spirit of reconciliation. He was loved by his associates in the Department of Philosophy, who feel the loss of his gentle and unassuming guidance. As a member of the faculty he was quietly influential in debate on educational policies, disinterested in action, and imbued with perspective on educational problems, all of which contributed significantly to the formation of policies and to the respect in which he was so widely held.

A. DALE RILEY

1887-1936

A. Dale Riley was born on December 30, 1887. He received his early education at Wellsville, Ohio, and later attended Cornell University at Ithaca, New York, where he received his baccalaureate degree in 1912. In 1913, Mr. Riley was appointed by the United States Civil Service to act as supervising teacher in the Philippine Islands. He filled this position until 1916 when he became principal, then superintendent, of the Moro Foundation. In 1921-22 he traveled extensively and

articles by him appeared in *Asia. Mid-Pacific*, and the *Outlook*. Mr. Riley returned to the Philippines in 1923 to be assistant superintendent of the Moro Foundation until 1925. During these years he spent much time studying and recording native plays and dances of Java, Malay Straits, India, China, and Japan. He wrote and produced several native plays which he presented with all native casts.

From 1926 to 1927, Mr. Riley taught dramatic art and directed plays at Wheeling High School, Wheeling, West Virginia. The following year he entered the University of Iowa and received his master of arts degree in 1930. It was the first master of arts degree to be granted by the Speech Department of Iowa for creative work.

Mr. Riley was an instructor in the Speech Department at the University of Iowa for two years and he taught the first class in radio broadcasting ever to be given in a state university. He left Iowa in the fall of 1931 to become assistant professor and director of dramatics at the University of Minnesota.

When Mr. Riley came to the University, dramatics played a relatively unimportant part on the campus, and play production was scattered among several student organizations on an extra-curricular basis. These scattered interests were drawn together by Mr. Riley and from them he built the University Theatre of which he may rightly be called the founder. This was a constructive undertaking for which he deserves much credit. Under Mr. Riley's directorship the University Theatre began with a modest program, which eventually expanded. The quality of student acting and production also improved and in some instances achieved high professional standards. There was a general awakening of interest in dramatic work, which was reflected in the expansion of the curriculum and in the attendance at the plays produced by the University Theatre. Part of Mr. Riley's success came through the achievement of a happy balance between plays that were entertaining and orthodox and plays that were imaginative and experimental.

The death of Mr. Riley on December 11, 1936, removed from the campus a man whose interests, imagination, and vitality had contributed much to the art of the theater at this University.

JOHN G. WILLIAMS

1855-1937

John G. Williams, lawyer, of Duluth, died at his home on August 29, 1937. He had served as a member of the Board of Regents of the University of Minnesota since 1912.

At the meeting of the Board of Regents on September 25, 1937, the following resolution was unanimously adopted and spread upon the records:

John G. Williams was a member of the Board of Regents of the University of Minnesota for a quarter of a century. These years cover the period in the life of the University in which it grew in numbers, influence, and service, and attained its present national and international place in the educational world. In all the measures that made this possible, he took a deep and personal interest, and no development of importance occurred in which his judgment was not sought and his opinion respected. His ability as a lawyer, his keen understanding of men and policies, his knowledge of the state through long residence, and his devotion to its best interests were reflected in all that he did. His record of continuous service provided one of the indispensable strands of continuity during the years of the University's expansion.

John G. Williams was appointed to the Board by Governor A. O. Eberhart on December 23, 1912. He was first vice-president of the Board from 1925 to 1929; from 1929 until his death he held the office of second vice-president. He died on August 29, 1937. In his death the people of Minnesota lose a distinguished public servant and the members of this Board lose a treasured colleague and a loyal friend.

In recognition of the great debt that the University and the state owe to him, the Regents of the University of Minnesota do hereby resolve that this expression of their deep and lasting appreciation be spread upon the minutes of the Board and transmitted to those nearest him.

STAFF HONORS

EDUCATIONAL, SCIENTIFIC, AND RESEARCH ACHIEVEMENTS

Administration. Lotus D. Coffman received the honorary degree LL.D. from Williams College on October 12, 1936. He was elected a member of the Advisory Board of the *National Parent-Teacher Magazine* in 1937 and was named vice-chairman of the board of trustees of the Carnegie Foundation for the Advancement of Teaching.

Malcolm M. Willey served as a member of the Committee on Social Science Personnel of the Social Science Research Council which makes the fellowship awards for the council, 1936-37, 1937-38.

News Service. Thomas E. Steward, director of the University of Minnesota News Service, was on leave from the University from December, 1936 until July 1, 1938, to gather materials for, and write, a history of the Mayo medical establishments in Rochester, Minnesota. These include the Mayo Foundation for Medical Education and Research, which has been connected with the University of Minnesota since 1915. He spent the first part of this period in Rochester gathering materials.

Museum of Natural History. Walter J. Breckenridge was advanced from associate member to the member class in the American Ornithologists Union.

University Testing Bureau. Edmund G. Williamson was appointed a member of the Committee on Student Personnel Work, American Council on Education.

College of Science, Literature, and the Arts. William Anderson served as a member of the Committee on Public Administration of the Social Science Research Council. He is a member of the editorial boards of *American Political Science Review* and *Public Management*.

Thomas F. Barnhart served as chairman of Minnesota Editors' Short Course, 1938, and was chairman of the Program Committee, North Dakota Press Association in 1937. He is assistant editor of *Scholastic Editor*.

Theodore C. Blegen was awarded the degree Ph.D., *honoris causa*, by the Royal Fredrik University, Oslo, 1938. He is a member of the Advisory Board of the American Council of Learned Societies, of the Executive Committee, Mississippi Valley Historical Association, of the Editorial Board, *Dictionary of American History*, and is managing editor for the Norwegian American Historical Association.

Raymond W. Brink served as trustee of the Mathematical Association of America.

George O. Burr received research grants from the National Livestock and Meat Board and from the Rockefeller Foundation.

William H. Bussey was appointed a member of the Committee on Publications for the semicentennial celebration of the founding of the American Mathematical Society.

Ralph D. Casey was awarded a John Simon Guggenheim Memorial Foundation fellowship for 1937-38 for the development of a research project: "An Analysis of British Political Party Propaganda." He serves as editor-in-chief of *Journalism Quarterly*. He is a member of the Council of Research, American Association of Schools and Departments of Journalism.

F. Stuart Chapin was elected chairman of the Committee on State Universities and Land-Grant Colleges of the American Association of Schools of Social Work.

Mitchell V. Charnley serves as managing editor of *Journalism Quarterly*.

William S. Cooper was elected president of the Minnesota Academy of Science, 1937-38.

Richard M. Elliott was elected representative of the American Psychological Association on the Social Science Research Council, 1938-41.

Anne F. Fenlason served as a member of the Committee on Part-time Students, American Association of Schools of Social Work. She is advisory editor on case work for *Social Work Technique*.

Oliver P. Field served as a member of the Executive Council, American Political Science Association. He was the recipient of a grant for research study given by the Social Science Research Council.

Elizabeth G. Gardiner served as a member of the Program Committee and the subcommittee on nominations, National Conference of Social Work. She was also a member of the Executive Committee and chairman of the committee to study the financing of the association, American Association of Medical Social Workers.

Richard Hartshorne was awarded a grant-in-aid by the Social Science Research Council.

William T. Heron was awarded a research grant by the Rockefeller Foundation.

Dunham Jackson has served as a member of the Editorial Committee on Carus Monographs, Mathematical Association of America. He is a member of the Committee for the Reorganization of Secondary School Mathematics in Minnesota and of the Committee on the Semicentennial Celebration of the American Mathematical Society.

Fred L. Kildow was appointed business manager of *Journalism Quarterly* and is associate editor of *Scholastic Editor*.

Clifford Kirkpatrick was awarded a Guggenheim fellowship for study in Germany, 1936-37.

Franklin H. Knower is president of the Central States Speech Association.

August C. Krey was elected vice-president of the American Association of University Professors, 1938.

Benjamin E. Lippincott was awarded a Social Science Research grant for study of "Personal Liberty."

Howard P. Longstaff was research associate of the Psychological Corporation.

David L. Mandelbaum was awarded a fellowship (1937-38) by the National Research Council to conduct ethnological research among certain hill tribes of southern India. He received a grant-in-aid (1937) from the Social Science Research Council to record and study the music of certain Dravidian speaking hill tribes, and a further grant from the Institute of Human Relations, Yale University (1938) to aid ethnological research among the Kota tribe of south India.

Lennox A. Mills was awarded the Rhodes Trust, Guggenheim Foundation, and Graduate School Social Science Research Council grants for travel and study in the British Colonies in the South Pacific region.

Dwight E. Minnich served as a member of the board of trustees and secretary of the board of the Mt. Desert Island Biological Laboratory, Salsbury Cove, Maine.

Ralph O. Nafziger served as chairman of the Committee on Graduate Courses, Standards, and Procedure for the American Association of Schools and Departments of Journalism. He is a member of the board of editors, *Journalism Quarterly*. He was the winner of the Sigma Delta Chi annual contest for research in journalism, March, 1937.

Marbury B. Ogle was appointed a member of the Council of the American Academy in Rome in 1937. In 1938 he was elected a member of the Executive Committee of the Classical Association of the Middlewest and South.

Everett W. Olmsted was awarded the Badge of the Knight of the Legion of Honor for "Distinguished service to the French Republic" June 5, 1937.

Ernest S. Osgood was awarded a Guggenheim fellowship for research in western history, 1936-37.

Harold Scott Quigley was appointed a member of the Executive Council of the American Society of International Law and served as chairman of the Executive Committee, Conference of Teachers of International Law and Related Subjects.

David M. Robb is a member of the Advisory Committee of the North Central Educational Association for the Art Institute of Chicago. He was the recipient of a grant from the Institute for Advanced Study, Princeton, New Jersey, to continue research in medieval sculpture.

Alice Leahy Shea was elected a member of the Executive Committee of the American Association of Schools of Social Work.

Lloyd M. Short served as a member of the Executive Council, American Political Science Association, 1935-37.

Raymond F. Sletto was appointed Minneapolis representative on the Committee on Census Tracts of the American Statistical Association, 1937-38.

George M. Stephenson was made knight in the Royal Order of the North Star by King Gustav of Sweden, December 16, 1937. He was awarded the degree Ph.D., *honoris causa*, by the University of Upsala, Sweden, May 31, 1938, and the honorary degree Litt.D. by Augustana College, Rock Island, Illinois, June 7, 1938.

Andrew A. Stomberg was elected president of the Swedish Cultural Society of America.

John T. Tate was awarded the honorary degree D.Sc. by the University of Nebraska, June 6, 1938. He was elected vice-president of the American Physical Society, 1938-39 and was appointed chairman of the governing board, American Institute of Physics, 1938-39. He is managing editor of the *Physical Review* and of *Reviews of Modern Physics*.

Miles A. Tinker was named honorary fellow in the American Academy of Optometry for distinguished research in vision, 1938.

Wilson D. Wallis was awarded a grant from the Carnegie Corporation of New York in support of a study of primitive science.

Institute of Technology. John D. Akerman was elected associate fellow of the American Institute of Aeronautical Science, and associate fellow in the Royal Aeronautical Society, London, England. He served as first vice-governor for the state of Minnesota, of the National Aeronautic Association, was chairman of the Student Affairs Committee and a member of the Committee on Education, Institute of the Aeronautical Sciences.

Leon E. Arnal was awarded a medal by the French architectural society, Association Provinciale des Architectes Français in recognition of his services in the training and teaching of architecture. He was elected a member of Société des Architectes Diplômés par le Gouvernement Français, and is a member of the American Institute of Architects.

Richard T. Arnold was elected treasurer of the Minnesota Section, American Chemical Society.

Hervy H. Barber was elected secretary of the Minnesota Section of the American Chemical Society for 1938-39.

Howard W. Barlow was elected a member of the American Meteorological Society and served as a member of the Technical Committee, Contest Board, National Aeronautics Association and as member of the official National Aeronautics Association Timing Staff, National Air Races.

John M. Bryant served as a member of the Convention Committee for the Illuminating Engineering Society.

Ruth Carter was elected to membership in the American Institute of Architects.

Robert G. Cerny was elected to membership in the American Institute of Architects.

Elting H. Comstock was past chairman of the Minnesota Section of the American Institute of Mining and Metallurgical Engineers and is a member of various standing committees of the American Institute of Mining and Metallurgical Engineers.

Ralph L. Dowdell served as a member of the Executive and Program committees of the Northwest Chapter of the American Society for Metals. He was a member of the Metals Handbook Committee of that organization in 1937 and 1938.

George Glockler was lecturer for the American Chemical Society.

Henry E. Hartig was appointed adviser to the Council on Physical Therapy of the American Medical Association.

Henry S. Jerabek was a member of the Executive and Education committees of the Northwest Chapter of the American Society for Metals.

Robert T. Jones was appointed director of the Architects' Small House Service Bureau and is a member of the Housing Committee, American Institute of Architects. He was elected a fellow by the American Institute of Architects.

Roy C. Jones was elected a fellow by the American Institute of Architects. He is a member of the Education Committee of the American Institute of Architects and of the Executive Committee (as past president) of the Association of Collegiate Schools of Architecture. He was elected president of the Minnesota Chapter, American Institute of Architects, and is visiting critic for the College of Architecture, Cornell University, Ithaca, New York.

Thomas L. Joseph was awarded the J. E. Johnson, Jr. and the Robert W. Hunt medal and prize by the American Institute of Mining and Metallurgical Engineers. He was past chairman of the Minnesota Section of the American Institute of Mining and Metallurgical Engineers and of the Minnesota Chapter of the American Society for Metals. He served as chairman of the J. E. Johnson Award Committee, 1938, as vice-chairman of the Iron and Steel Division of the American Institute of Mining and Metallurgical Engineers and had membership on various standing committees of that organization.

Izaak M. Kolthoff served as a member of the Committee on Standard Methods in Analytical Chemistry and of the Executive Committee, Sections of Physical and Inorganic Chemistry, American Chemical Society. He is associate editor of *Industrial and Engineering Chemistry*, analytical edition, and of *Mikrochimica Acta*. He served as chairman of the National Symposium, American Chemical Society, Dallas, Texas. He was elected *membre correspondant* of the Société Royale des Lettres et des Sciences de Bohême, Prague. In June and July, 1937, Professor Kolthoff gave invitation lectures in Vienna and Prague before the Oesterreichische Chemische Gesellschaft and Deutsch Chemische Gesellschaft in Prague.

Samuel C. Lind served as delegate to the International Union of Chemistry, meeting at Rome, May 14-21, 1938, for the National Academy of Sciences and the National Research Council.

Robert S. Livingston was awarded the Lalor fellowship for 1938-39.

Frank H. MacDougall served as councilor for the American Chemical Society.

Charles A. Mann served as chairman of the Minnesota Section of the American Chemical Society. He was a member of the National Committee of the Engineering Council for Professional Development and of the Roeber Research Fund and Organic Electrochemistry committees of the Electrochemical Society.

George H. Montillon served as a member of the subcommittee on engineering research and of the Chemical Engineering Laboratory Committee of the Society for Promotion of Engineering Education. He is councilor for the American Chemical Society.

Walter H. Parker was appointed to membership on various standing committees of the American Institute of Mining and Metallurgical Engineers.

Lloyd H. Reyerson served as vice-chairman of the Colloid Division, American Chemical Society and as a member of the National Colloid Symposium Committee. He is associate editor of the *Journal of Physical Chemistry*.

Rhodes Robertson was elected to membership in the American Institute of Architects.

Ernest B. Sandell is co-operator, *Mikrochimica Acta*.

Lee Irvin Smith served as a member of the board of editors for the *Journal of Organic Chemistry* and for *Organic Syntheses*. He was appointed director of synthetic work on vitamin E, part of a co-operative research between the Division of Organic Chemistry of the University of Minnesota and Merck and Co., Inc.

Lorenz G. Straub was appointed American representative to the permanent Executive Committee of the International Association for Hydraulic Structure Research.

Department of Agriculture. William H. Alderman was awarded the Minnesota State Horticultural Society medal in December, 1937.

Parker O. Anderson was elected president of the Minnesota Forestry Association. He is director of the Minnesota Wildlife Federation and consultant for the American Legion Conservation Committee.

Philip A. Anderson was elected secretary of the Minnesota Sheep Breeders Association.

Clyde H. Bailey served as president of the American Association of Cereal Chemists. He was elected to membership in the Royal German Academy of Natural Sciences in recognition of his outstanding work in the field of optimum conditions for bread production and in the various fields of sciences that are related. He was invited to deliver an address to the International Congress on Bread Production in Leipzig, Germany, in November, 1937.

Alice Biester is national treasurer of Iota Sigma Pi and served on the State Nutrition Committee.

William Boss was appointed chairman of the Meetings Committee, American Society of Agricultural Engineers.

Margaret L. Brew was awarded a fellowship for 1938-39 by the University of Chicago.

David R. Briggs was elected vice-president of the Minnesota Section, American Chemical Society.

Clara M. Brown served as home economics consultant to the Advisory Committee on Education, 1937. She was editor of home economics education abstracts in *Graduate Studies and Research*, 1936-38.

Jonas J. Christensen was elected a member of the Council of the American Phytopathological Society.

Walter C. Coffey acted as chairman of the Committee on Projects and Correlation of Research, Association of Land-Grant Colleges and Universities. He was a member of the Committee on Instruction in Agriculture and of the Committee on Home Demonstration Work for the Association of Land-Grant Colleges and Universities. He was appointed a member of the board of trustees, Hamline University, and was a member of the board of directors of the International Livestock Exposition.

Willes B. Combs is a member of the board of directors of the National Creamery Buttermakers Association. He has served as a member of the Committee on Quality of Dairy Products and chairman of the subcommittee on condensed milk and milk powder, American Dairy Science Association. In 1938 he received a special research grant from the Musher Foundation.

Samuel F. Coulter is a member of the General Committee on Chemical Methods for the Analysis of Milk and Dairy Products and is chairman of the subcommittee on butter analysis, American Dairy Science Association.

Ralph F. Crim is president of the National Seed Council of North America and editor of the *Minnesota Seed Grower* published by the Minnesota Crop Improvement Association.

Eva G. Donelson was elected secretary of the Minnesota Home Economics Association.

Austin A. Dowell was elected secretary of the Minnesota Statistical Association, 1938-39.

Carl J. Eide was appointed associate editor of the journal *Phytopathology*.

Arthur E. Engebretson served as a member of the board of directors of the Minnesota Wildlife Federation.

Evan F. Ferrin is a member of the board of directors of the National Swine Growers Association and was elected secretary of the Minnesota Swine Breeders Association.

Clifford P. Fitch is associate editor of the *Journal of American Veterinary Medical Association*.

James B. Fitch is a member of the Cattle Classification Committee of both the American Jersey Cattle Club and the Holstein-Friesian Association of America.

Ross A. Gortner has membership on the following committees: International Committee on Biochemical Nomenclature (American representative), International Union of Chemistry; Committee on Chemistry of Colloids, Division of Chemistry and Chemical Technology, National Research Council; Committee on Proteins, Division of Chemistry and Chemical Technology, National Research Council; Committee on Biochemical Nomenclature, Division of Chemistry and Chemical Technology, National Research Council; Committee on Organic Nomenclature, Division of Chemistry and Chemical Technology, National Research Council; Committee Q on "Teacher Training" of the American Association of University Professors; "Conference on Graduate Study" called by the United States Commissioner of Education, Baltimore, Maryland; Jury of Award, Willard Gibbs Medal, the American Chemical Society; Jury of Award, the Borden Prize, the American Chemical Society; Executive Committee (national) and chairman of the Committee on Policy, Sigma Xi. He is associate editor of the *Journal of the American Chemical Society* and assistant editor (zoology) of *Chemical Abstracts*.

Alexander A. Granovsky was elected president of the White Grub Conference at the North Central States Entomologists meeting.

Harold L. Harris served as director of the American Association of Agricultural College Editors and as chairman of the Committee on Research of that organization.

Helen Hart was invited by the University of Halle, Germany, to spend a year at that institution investigating the yellow stripe rust of cereals and grasses.

Alfred L. Harvey is secretary of the Minnesota Stallion Registration Board and of the Minnesota Horse Breeders Association.

Rodney B. Harvey was elected to the council of the American Society of Plant Physiologists and was vice-president of the Minnesota Academy of Science.

Herbert K. Hayes was appointed honorary adviser to the National Agricultural Research Bureau of China.

Oscar B. Jesness was president of the American Farm Economic Association, 1937.

Ramer D. Leighton is a member of the Testing Committee, Extension Section, American Dairy Science Association.

Wylle B. McNeal served as chairman of the Syllabus Committee of the American Home Economics Association.

Harold Macy is a member of the board of directors of the American Dairy Science Association and is chairman of the Committee on Bacteriological Methods of that association. He was also a member of the Bacteriological Stain Commission of the Society of American Bacteriologists and was elected vice-president of the North Central Branch of the Society of American Bacteriologists for 1938-39.

Clarence E. Mickel was elected secretary-treasurer of the Entomological Society of America.

Lowry Nelson served as a member of the Committee on the Economic Status of the Rural Teacher, National Education Association, Washington, D.C. He is editor of *Rural Sociology*.

Leroy S. Palmer was consultant on standards, Council of the American Medical Association, and collaborator on the United States Pharmacopoeia Vitamin Standardization Committee. He is associate editor of the *Journal of Dairy Science*.

William E. Petersen is national treasurer of Gamma Alpha, graduate scientific fraternity. He is a member of the Production Methods Committee and the Committee on Chemical Methods for the Analysis of Milk and Dairy Products of the American Dairy Science Association. He has served as chairman of the Committee for Protein Analysis of the American Association of Official Agricultural Chemists.

Walter H. Peters is livestock editor of *The Farmer*.

Ethel L. Phelps is chairman of the Research Committee, Textiles and Clothing Division, and representative of the division in the Research Department of the American Home Economics Association. She is a member of Committee D-13, units on standards and methods for testing textile products, Division of Trade Standards, United States Department of Commerce.

William A. Riley is editor of medical entomology for the *Journal of Parasitology*. He is vice-president of the American Board of Trustees of Lingnan University, China.

Harry B. Roe served as chairman of the Arrangements Committee of the American Society of Agricultural Engineers.

Martin H. Roepke was elected a member of the American Society of Pharmacology and Experimental Therapeutics, April, 1937.

Ella J. Rose is advisory editor of the *Journal of Home Economics*. She has served on curriculum, research, and graduate studies committees for the central regional group of home economics state supervisors and teacher trainers.

Arthur G. Ruggles was elected president of the International Great Plains Conference of Entomologists. He is chairman of the Executive Committee of the Central States Entomologists.

Henry Schmitz was re-elected editor-in-chief of the *Journal of Forestry* for the term January, 1938 to December 31, 1939.

Arthur J. Schwantes was elected president of the Minnesota Section, Society for the Promotion of Engineering Education, 1937-38, and is a member of the Research Committee of the Northwest Shippers Advisory Board.

Hubert J. Sloan serves on the following committees for the Seventh World's Poultry Congress: member of the National Industry Committee, chairman of the Minnesota Committee, and Minnesota representative on the State Committee Council.

May Sontag is a member of the National 4-H Club Radio Program Committee.

Elvin C. Stakman served as a member of the Interdivisional Committee of the National Research Council on Aerobiology, was vice-chairman of the Division of Biology and Agriculture of the National Research Council, and acted as chairman of the Interdivisional Committee of the National Research Council on Genetics of Pathogenic Organisms. He was selected as a vice-president of the Third International Congress for Microbiology for 1939. The University of Halle, Germany, awarded him the honorary degree of doctor of natural sciences.

Warren C. Waite was elected president of the Minnesota Statistical Association, 1938-39.

Harold K. Wilson is editor of *Proceedings of the Minnesota Academy of Science*. He was elected secretary-treasurer of the Minnesota Academy of Science, and chairman of the Committee of Student Sections, American Society of Agronomy.

Laurence M. Winters has served as the Minnesota member of the board of directors of the Regional Swine Breeding Laboratory.

Medical School. Wallace D. Armstrong was awarded the special Commonwealth Fund fellowship for the study of calcification.

Edward A. Boyden is managing editor of the *Anatomical Record*.

Ruth E. Boynton served as a member of the editorial board, *Journal-Lancet*. She was elected secretary-treasurer of the American Student Health Association.

Frank L. Bryant was elected a member of the American Academy of Ophthalmology and Otolaryngology.

William H. Condit was elected treasurer of the Minnesota State Medical Society, 1937-38.

Katharine J. Densford has been president of the Minnesota League of Nursing Education since 1932 and is first vice-president of the American Nurses' Association. She is a member of the board of directors of the American Journal of Nursing Company and a member of the board of directors of the American Nurses' Association. She was elected chairman of the Committee on Hospital Nursing Service of the American Nurses' Association as well as chairman of the Production Committee on Medical and Surgical Nursing (curriculum committee), National League of Nursing Education.

Harold S. Diehl was elected vice-chairman of the Section on Preventive Medicine and Public Health, American Medical Association.

Hal Downey is American editor of *Folia Haematologica*. He is also editor of *Handbook of Hematology*.

Ralph V. Ellis served as a member of the editorial board, *Journal-Lancet*.

Everett C. Hartley was elected secretary-treasurer of the Minnesota Obstetrical and Gynecological Society, 1937-38.

Henry F. Helmholz was installed as president of the American Academy of Pediatrics on June 11, 1938.

Arthur T. Henrici was elected vice-president of the Society of American Bacteriologist, 1938. He is collaborator of *Mycopathologia*, an international journal devoted to fungous diseases of man, and advisory editor for the *Journal of Bacteriology*.

Clarence M. Jackson is associate editor of the *American Journal of Anatomy*. He is a member of the Advisory Board, Wistar Institute of Anatomy, Philadelphia.

Joseph T. King was the recipient of a grant from the American Medical Association for the study of the mechanism of action of sulfanilamide.

Rae T. LaVake was elected president of the Minnesota Academy of Medicine, 1938.

Jennings C. Litzenberg was president of the Minnesota Society of Obstetrics and Gynecology, 1938. He served on the editorial board of the *American Journal of Obstetrics and Gynecology* and was a member of the Executive Committee of the American Board of Obstetrics and Gynecology and of the Executive Committee of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons.

Irvine McQuarrie was the distinguished guest lecturer at the Medical Post-Graduate Summer School of British Columbia and was *relatore* for the United States at the Fourth International Pediatric Congress in Rome, Italy, 1937. He was awarded a grant from Mead Johnson and Company. In June, 1938 he was elected to membership on the Committee on Scientific Awards of the American Academy of Pediatrics and was elected president of the American branch of the International League against Epilepsy.

Kenneth Fuller Maxcy was elected scientific director of the International Health Division of the Rockefeller Foundation, January, 1937.

J. Arthur Myers served as president of the National Tuberculosis Association, 1937-38, and as president of the American Academy of Tuberculosis, 1937-38. He has continued to serve as editor of the *Journal-Lancet* and is a member of the editorial board of the *American Review of Tuberculosis*.

Horace Newhart served as chairman of the Committee on Deafness Prevention and Amelioration, American Academy of Ophthalmology and Otolaryngology; chairman of the Committee on Deafness Prevention and Amelioration, Minnesota State Medical Association; and chairman of the Committee on Standardization of Hearing Tests for School Children, American Society for the Hard of Hearing. He is a member of the Committee of Consultants on Audiometers and Hearing Aids of the Council on Physical Therapy of the American Medical Association. He was elected vice-president of the American Otological Society.

William A. O'Brien was elected to the board of directors of the College of St. Catherine.

Lucile Petry was elected vice-president of the Minnesota State League of Nursing Education and treasurer of the National League of Nursing Education. She is a member of the Curriculum Committee, National League of Nursing Education.

Andrew T. Rasmussen was elected vice-president of the Association for the Study of Internal Secretions. He is a member of the Executive Committee, American Association of Anatomists.

Leo G. Rigler was elected president of the Minnesota Pathological Society and Minnesota Radiological Society and vice-president of the American Registry of X-Ray Technicians.

John L. Rothrock was elected president of the Minnesota Obstetrical and Gynecological Society, 1938-39.

Leo T. Samuels received a grant from the National Research Council for study of the influence of the hypophysis on metabolism.

Albert G. Schulze served as secretary-treasurer of the Minnesota Academy of Medicine, 1938.

Karl W. Stenstrom served as a member of the Research and Standardization Committee of the American Radium Society, of the Standardization and X-ray Measurements Committee of the Radiological Society of North America and of the Committee on Safety and Standards of the American Roentgen Ray Society. He was elected president of the Swedish Society of Minneapolis and St. Paul.

Chester E. Stewart was *relatore* for the United States at the Fourth International Pediatric Congress in Rome, 1937. He served as a member of the Diagnostic Standards Committee of the National Tuberculosis Association, 1936-38.

Maurice B. Visscher was elected chairman of the Section on Physiology and Pathology of the American Medical Association, 1938-39.

School of Dentistry. George M. Damon was elected president of the Minnesota State Dental Association, 1938.

Raymond E. Johnson, Amos S. Wells, and Charles A. Wiethoff were elected to membership in the American College of Dentists.

William F. Lasby was elected president of the Supreme Chapter, Omicron Kappa Upsilon, 1937-38.

Charles E. Rudolph was elected president of the American College of Dentists for 1937-38.

Law School. Wilbur H. Cherry is president-elect of the American Association of Law Schools.

Everett Fraser served as reporter on the Law of Torts and adviser on the Law of Property of the American Law Institute; was a member of the Minnesota State Bar Association Committee on Property Law; and was chairman of the committee of the American Association of Law Schools on co-operation with the bench and bar.

Henry L. McClintock is adviser to the Committee on Labor Law, Minnesota State Bar Association, working out a proposed labor relations statute for Minnesota.

William L. Prosser served as a member of the Committee on Comparative Negligence of the Minnesota State Bar Association and as member of the Executive Committee of the Order of the Coif. He is editor-in-chief of the *Minnesota Law Review*.

Henry Rottschaefter served as member of the subcommittee on legal problems of local taxation of the section of municipal law, American Bar Association, 1937-38, and also as member of the Committee on Allocation of Income of the National Tax Association, 1937-38.

College of Pharmacy. Ragnar Almin was elected chairman on practical pharmacy, Minnesota State Pharmaceutical Association, and served as a member of the editing committee of that association.

Gustav Bachman served as a member of the Minnesota State Board of Health and as chairman of the United States Pharmacopoeia and National Formulary Revision Committee, Minnesota State Pharmaceutical Association.

Earl B. Fischer was elected chairman of the Drug Plant Culture Committee of the Minnesota State Pharmaceutical Association and served as president of the northwestern branch of the American Pharmaceutical Association.

Glenn L. Jenkins was elected member of the council and second vice-president

of the American Pharmaceutical Association. He also served as chairman of the Adulterations Committee, Minnesota State Pharmaceutical Association.

Charles V. Netz was elected chairman of the Research Committee, Minnesota State Pharmaceutical Association, and secretary of the northwestern branch of the American Pharmaceutical Association. He is collaborator for the *American Journal of Pharmaceutical Education*.

Charles H. Rogers was elected chairman of the Scientific and Practical Section of the Minnesota State Pharmaceutical Association. He is a member of the Committee on Predictive and Achievement Tests and of the Inspection Committee American Association of Colleges of Pharmacy.

College of Education. Clifford P. Archer was nominated for president of the Minnesota Education Association by the Delegate Assembly. He is secretary-treasurer of the western division, Minnesota Education Association; chairman of the Committee on Education, Society for Care of Handicapped Children; chairman of the Committee on Research, Minnesota Visual Education Society; and chairman of the Committee of Secondary School Principals Association on the Education of Teachers.

Charles W. Boardman was elected first vice-president of the North Central Association of Colleges and Secondary Schools; he served as a member of the Minnesota State Committee of this association during 1937-38. He was representative for Minnesota in the Department of Secondary School Principals, the National Education Association, 1937. In May, 1937 he was lecturer at the Conference on Education, London, England.

Prudence Cutright is a member of the editorial board of *Educational Method*. She is a member of the Executive Committee, Society for Curriculum Study, and member of the board of directors, Department of Supervisors and Directors of Instruction.

Joseph H. Daoust was assistant statistician, President's Advisory Committee on Education, Washington, D.C.

Richard M. Drake is a member of the State Committee for Reorganization of Mathematics. He is director of the Mathematics Teachers' Clubs in Minnesota.

Marcia Edwards was awarded a grant from the Carnegie Foundation for the Advancement of Teaching to study graduate education.

Leigh H. Harden was elected vice-president of the Minnesota Vocational Agricultural Instructors Association.

Robert S. Hilpert was consultant and contributor to the National Committee on Research in Secondary Education.

Walter D. Loban is member of the Committee on Teacher Training, National Council of Teachers of English and a member of the Guidance Committee on the Place of English in Education, National Council of Teachers of English.

T. Raymond McConnell was a member of the National Advisory Council, Supervisors of Student Teaching.

Mervin G. Neale served as college examiner for the North Central Association of Colleges and Secondary Schools and as adviser for the Research Committee, National Education Association.

Victor E. Nylin served as president of the Minnesota Agriculture Instructors Association, 1937-38.

Dale O. Patterson received the award for the best article published during the year 1936-37 in the *Bulletin of the American Association of Collegiate Registrars*. He served as statistical assistant for the Committee of the American Association of University Professors report, *Depression, Recovery, and Higher Education*, 1937.

Wesley E. Peik was elected vice-president and chairman of the Executive Committee for the Association of Supervisors of Student Teaching.

Dean M. Schweickhard served as institute staff member, Ohio State Institute Conference.

Homer J. Smith was elected secretary-treasurer of the National Association of Industrial Teacher-Trainers. He was chosen a member of the Committee on Industrial Arts, United States Office of Education, and a member of the board of directors, Horace Mann League of the United States.

C. Gilbert Wrenn was awarded a three-month fellowship from the General Education Board to study and appraise research projects on adolescence. He served as a member of the Editorial Advisory Board of *The Vocational Guidance Digest* and *Careers and Hobbies*, and is a member of the National Society for the

Study of Education Committee. He was elected chairman of the Committee on Reorganization of the American College Personnel Association and is chairman of the Minnesota Conference on Training Recreation Leaders, and chairman of the Continuation Committee to plan another national conference in 1939 and to arrange for a White House Conference on Leisure. He is a member of the Program Committee of the American College Personnel Association for 1938-39.

Harold T. Widdowson was elected president of the National Association of State Supervisors of Trade and Industrial Education.

Graduate School. Guy Stanton Ford was awarded the honorary degree L.H.D. by the University of Rochester on June 20, 1938. He was elected president of the American Historical Association and chairman of the Social Science Research Council.

Frank Charles Mann was awarded the honorary LL.D. degree by the University of Indiana, June 13, 1938.

Waltman Walters was awarded the honorary degree D.Sc. by Dartmouth College, 1937.

School of Business Administration. Frederic B. Garver served as member of the Price Conference of the National Bureau of Economic Research and was chairman of the program committee to arrange the fifty-second annual meeting of the American Economic Association. He was elected vice-president and member of the Executive Committee of the American Economic Association.

Ernest A. Heilman was elected president of the American Accounting Association.

Arthur W. Marget served as member of the Executive and Editorial Committees, Conference on Studies in National Income and Wealth, National Bureau of Economic Research; as member of the Exploratory Committee on Research in Fiscal Policy, of the same organization; and as a member of the Conference on the Long Cycle, the Brookings Institution, and the Social Science Research Council.

Russell A. Stevenson was elected chairman of the Committee on Study of Business Education at the Collegiate Level of the American Association of Collegiate Schools of Business. He was the Minnesota representative on the National Bureau-University Committee on Economic Research, National Bureau of Economic Research, and served as president of the Conference of State University Schools of Business, 1937-38.

Roland S. Vaile is managing editor of *Journal of Marketing*.

Dale Yoder was elected to the National Advisory Council of Pi Gamma Mu, National Social Science honor society. He was president of the Mid-West Economic Association, 1936-37.

General College. John G. Darley was elected chairman of the Publicity Committee, American College Personnel Association.

Malcolm S. MacLean served as chairman of the National Committee on General Education. He was elected president of the National Council on Parent Education. On February 23, 1938 he delivered the Alexander Inglis Memorial Lecture at Harvard University.

Ivol Spafford served as a member of the advisory board, Progressive Education Association and was a member of the National Committee on Education for Home Living.

Department of Physical Education and Athletics. Bernard W. Bierman was a member of the board of directors of the National Football Coaches Association and a member of the Football Rules Committee of that association.

Edwin Haislet served as a member of the Board of Governors of the National Amateur Athletic Union and as a member of the Games Committee of the American Olympic Committee.

Louis F. Keller served as secretary of the Ice Hockey Rules Committee of the National Collegiate Athletic Association and as editor of *Ice Hockey Guide*, N.C.A.A. He was a member of the Ice Hockey Games Committee of the American Olympic Association and chairman of the Committee on Demonstrations, Central District Physical Education Association Convention.

Frank G. McCormick was a member of the American Olympic Committee and of the Executive Committee of the American Olympic Committee. He was chairman of the Olympic Finance Committee of the National Collegiate Athletic Association and of the Games Committee for the N.C.A.A. Track and Field Meet. He also served as a member of the N.C.A.A. Baseball Committee.

Carl L. Nordly was appointed to membership on the Interscholastic Athletic Committee of the Minnesota Education Association, the Legislative Council of the American Association for Health and Physical Education, the Legislative Council of the Central District of the American Association for Health and Physical Education, and was on various committees of the Minnesota Association for Health and Physical Education. He was appointed contributing editor of the *Journal of Health and Physical Education*.

Ralph A. Piper was elected secretary of the Physical Education Association of the Western Conference and secretary of the research section of the Central District Physical Education Association Convention.

Neils Thorpe was elected president of the College Swimming Coaches Association of America in 1938.

Department of Physical Education for Women. Gertrude M. Baker was elected vice-president of the central district of the American Association for Health and Physical Education. She served as secretary of the research section of this association during 1936-37.

Grace M. Christensen acted as a member of the Radio Committee of the Council of the Minnesota Physical Education Association.

J. Anna Norris was elected a member of the Council of the Minnesota Physical Education Association.

Helen M. Starr was Minnesota state chairman of the Aquatic Committee of the American Association for Health and Physical Education.

Elizabeth Zimmerli was Minnesota state publicity chairman for the American Association for Health and Physical Education, and chairman of the Committee for a Speakers Bureau of the Minnesota Physical Education Association.

University of Minnesota Press. Margaret S. Harding was elected a director of University Books, Inc., New York.

Jane McCarthy received the American Institute of Graphic Arts award for one of the "Fifty Books of the Year" in 1936-37. She received special mention for excellence of design in *Publishers Weekly* and *Books Production Monthly*.

Institute of Child Welfare. John E. Anderson served as member of the Committee on Child Development of the National Research Council and of the committee preparing the *Thirty-eighth Yearbook of the National Society for the Study of Education*. He acted as chairman of the Committee on the Exceptional Child and was a member of the national board of managers of the National Congress of Parents and Teachers. He also served as chairman of the Constitutional Committee, American Association of Applied Psychologists. He was elected seventh vice-president of the Minnesota Congress of Parents and Teachers. In 1938 he received the annual *Child Life* magazine award for outstanding achievement in the field of child education.

Josephine C. Foster acted as chairman of the Research Committee of the Association for Childhood Education and was also chairman of the Planning Committee of the National Association for Nursery Education. She is an honorary member of the Association for Pre-school Education.

Florence L. Goodenough served as a member of the committee preparing the *Thirty-ninth Yearbook of the National Society for the Study of Education* and is representative of the American Psychological Association on the National Research Council.

PUBLIC SERVICE ACTIVITIES OF THE STAFF

PUBLIC SERVICE ACTIVITIES OF THE STAFF

Administration. Malcolm M. Willey was director of studies, 1936-37, for the Committee on the Effects of Depression and Recovery on Higher Education, of the American Association of University Professors, and author of the committee report *Depression, Recovery, and Higher Education*, published in 1937.

University Testing Bureau. Edmund G. Williamson served as a member of the Technical Advisory Committee, Veterans Occupational Guidance Unit, United States Employment Service.

University Art Gallery. Ruth E. Lawrence was elected a member of the board of directors of the Federal Art Project in Minnesota.

College of Science, Literature, and the Arts. William Anderson is a member of the Minnesota State Planning Board.

Pierce Atwater was special consultant of the United States Senate Committee appointed to investigate unemployment relief; he was a member of the Advisory Committee on the Registration of Social Statistics of the Federal Children's Bureau and of the Executive Committee of the American Association of Social Workers. He was elected secretary of the national organization of Community Chests and Councils, Inc.

F. Stuart Chapin was appointed by Secretary Ickes a member of the Advisory Committee on the Summer Field Homes. He was a member of the Committee on Hygiene and Housing of the American Public Health Association and of the Committee on Instruction and Research in Housing, National Association of Housing Officials. He also served as a member of the Housing Committee, Minnesota State Planning Board.

Asher N. Christensen served as special examiner for the employment service of the United States Department of Labor.

Samuel Eddy supervised research work on fish in the state of Minnesota for the Conservation Department and United States Forest Service. He was appointed a member of the State Advisory Conservation Council.

Oliver P. Field was a member of the President's Committee on Administrative Management.

Elizabeth G. Gardiner was a member of the Conference on Better Care for Mothers and Babies, Children's Bureau, United States Department of Labor, and a member of the Advisory Committee, Division of Services to Crippled Children, State Board of Control, St. Paul, Minnesota.

Robert S. Hilpert was consultant and contributor to the National Committee on Research in Secondary Education, and was associate specialist in art education, Regents' Inquiry into the Character and Cost of Education in the State of New York.

Clarence C. Ludwig served as a member of the State Planning Board Committee on Finance, the Minnesota Civil Service Council, and the Minnesota Public Safety Council. He was elected vice-president of the American Municipal Association and was a member of the National Committee on Municipal Accounting.

Charles H. McLaughlin was supervisor of legal research Divisions 10 and 12 of the United States Attorney General's Survey of Release Procedures.

Lennox A. Mills prepared special reports to the British Colonial Office on colonies visited during 1936-37, and a special report to the director of education of Ceylon.

Frank M. Rarig served as chairman of a committee appointed by Governor Elmer A. Benson to investigate charges of political interference with the State Department and the State Board of Education.

Alice Leahy Shea was appointed by the secretary of labor to the Advisory Committee, United States Children's Bureau and to the Advisory Committee on Personnel and Training for the Social Security Board, with reference to the program for aid to dependent children.

Lloyd M. Short is a member of the Minnesota Civil Service Council and of the Advisory Council, Minnesota Institute of Governmental Research. He was consultant, Institute of Local Government, University of Pennsylvania, 1937.

Royal R. Shumway is a member of the committee to survey junior colleges in the state for the State Planning Board.

Andrew A. Stomberg was appointed a member of the Minnesota Ter-centenary Commission to represent the state at the three-hundredth anniversary celebration of the first Swedish settlement in America. He is a member and secretary of the Commission on Higher Education of the Augustana Synod of North America.

George B. Vold was a member of the Advisory Committee of the Attorney General's Survey of Release Procedures.

Institute of Technology. John D. Akerman is a member of the Civil Service Examination Board for St. Paul.

Frederic Bass was elected president of the Minnesota State Board of Health. He is a member of the Committee on Water Resources, Minnesota State Planning Board.

Edward W. Davis, served as a member of the Committee on Natural Resources of the Minnesota State Planning Board.

Henry E. Hartig is president of the Board of Education, Independent School District 24, Robbinsdale. He is technical consultant for the American Society for the Hard of Hearing and consultant for the Austin municipality on police radio system.

Louis S. Heilig was appointed engineer on ore estimating, Minnesota State Tax Commission.

Elmer W. Johnson is in charge of the motor vehicle light testing laboratory in co-operation with the State Highway Department.

Edwin M. Lambert was appointed engineer in charge of ore estimating for the Minnesota State Tax Commission.

William T. Ryan is adviser, Engineering Department, Minnesota Tax Commission on appraisal of electric light and power, street railway, and gas properties.

Department of Agriculture. Albert C. Arny served as collaborator in the Soil Conservation Service, United States Department of Agriculture, Washington, D.C.

William A. Billings serves as a member of the National Turkey Committee and the Minnesota State General Committee, World's Poultry Congress.

Eva L. Blair was a member of the State Nutrition Committee.

Carl Borgeson was named seed certification official of the Minnesota Crop Improvement Association.

John O. Christianson is a member of the St. Paul Library Board and a member of the Rural Youth Advisory Committee.

Walter C. Coffey served as chairman of: the Committee on Cooperative Meat Investigations of the American Society of Animal Production; the Conference on Factors Which Influence Quality and Palatability of Meats, United States Department of Agriculture; Honor Roll Committee of the Minnesota Live Stock Breeders Association; the Regional Coordinating Committee to study and advise regarding a program for determining the need of phosphorus on the farm lands of the North Central States; the Town and Country Committee, North Central Area Council, YMCA; Executive Committee of the State YMCA. He was a member of the following organizations: National Advisory Committee on Research; Institute of American Poultry Industries; committee to prepare exhibit for the state of Minnesota at the World's Triennial Poultry Congress; Cellulose Advisory Committee for Perennial Crops of the National Farm Chemurgic Council; committee to assist in the promotion of the twentieth international convention on Christian education. He is a member of: the Executive Committee of the Quetico Superior Council, the Minnesota Committee for Wildlife Restoration Week, Regional Rural Extension Committee of the Boy Scouts of America; Minnesota Anti-syphilis Committee; board of directors of the Minnesota Rural Rehabilitation Corporation; and Board of Education of the Methodist Episcopal Church. He is a member of the State Advisory Committee on Soil Conservation for Minnesota. He was president of the Conference for the Prevention of Grain Rust, and chairman of the Executive Committee of the Conference for the Prevention of Grain Rust. He is director of the Flax Institute of the United States, and a class C director of the Federal Reserve Bank of Minneapolis.

Willes B. Combs is president of the Minnesota Dairy Industry Committee.

Corra Cooke is a member of the State Publicity Committee and the Minnesota State General Committee of the World's Poultry Congress.

Ralph F. Crim has continued to act as secretary of the Minnesota Crop Improvement Association.

Daniel C. Dvoracek was a member of the Minnesota State Adult Education Committee.

Theodore A. Erickson served as a member of the Advisory Board of Directors, Minnesota Public Health Association, a member of the Minnesota Safety Council, advisory member of the National Safety Council, and was president of the National Association of State 4-H Club Leaders.

James B. Fitch has assisted the Minnesota State Board of Control in the supervision of fifteen publicly owned dairy herds.

Alexander A. Granovsky was elected president of the American Organization for the Rebirth of the Ukraine.

Herbert K. Hayes has served the Chinese Government as adviser on plant breeding, 1936-37. He is a member of the Committee on Varietal Standardization and Registration of the American Society of Agronomy.

Inez M. Hobart was a member of the Advisory Committee on Maternity and Infancy Program, Minnesota State Department of Health, and a member of the Advisory Committee to the nutritionist employed by the maternity-infancy director of the State Board of Health. She was elected chairman of the State Nutrition Committee.

Kenneth W. Ingwalson is a member of the Minnesota State General Committee and the Minnesota 4-H Committee of the World's Poultry Congress. He was elected secretary of the Minnesota Wildlife Federation and was a member of the State Advisory Committee, Minnesota Public Health Association.

Oscar B. Jesness was a member of the Advisory Committee of the Minnesota Institute of Governmental Research and chairman of the State Planning Board.

Harold Macy is secretary of the Minnesota Dairy Industry Committee. He has had charge of a survey of the Twin City milk supply during the past two years.

Paul E. Miller was a member of the State Committee of the Agricultural Conservation Program and the Farm Security Administration, of the State Advisory Committee, Soil Conservation Service, of the Reforestation Committee, State Planning Board, and Minnesota Committee of the Flax Institute of the United States. He served as chairman of the Agriculture, Forestry, Wildlife and Recreation Committee, Minnesota Division of the Northern Lake States Regional Committee.

William E. Morris was elected secretary of the extension section of the American Society of Animal Production, 1937, and chairman of the extension section of the same organization, 1938.

Lowry Nelson was appointed a member of the permanent Agricultural Committee, International Labor Office, Geneva, Switzerland. He served as a member of the Board of Directors of the American Country Life Association and of the Advisory Committee on Social and Economic Research in Agriculture, Social Science Research Council.

Ethel L. Phelps served as the state director of the Body Measurement Project organized by the Bureau of Home Economics of the United States Department of Agriculture.

George A. Pond was elected secretary of the Minnesota Farm Managers Association.

Mildred Schenck served on the following committees for the National 4-H Club Congress: Exhibit Committee, Radio and Publicity Committee, Executive Committee for the 1938 Program (representing the north central section).

Gustav Swanson co-operated with the State Game and Fish Division in studies of our native game birds and mammals.

Matthias A. Thorfinnson was elected secretary of the State Advisory Committee, Soil Conservation Service.

Warren C. Waite served as economic adviser to the provincial government of Alberta in the preparation of a brief to be presented to the Royal Commission of Inquiry into the financial relations between the Dominion and the provinces, 1937. He was a member of the Editorial Board of the *Journal of Farm Economics* and a member of the State Planning Board Committee on Income.

Harold K. Wilson served as collaborator in weed investigations, Office of Cereal Crops and Diseases, Bureau of Plant Industry, Washington, D.C.

Medical School. Ruth E. Boynton served as a member of the State Advisory Board on Maternal and Child Hygiene and was consultant on the United States Children's Bureau.

Albert J. Chesley has served on the Advisory Committee to the United States Public Health Service and has continued as secretary of the Conference of State and Territorial Health Officers.

Harold S. Diehl served as director of health studies, American Youth Commission.

Clarence M. Jackson was elected president of the Minnesota State Board of Examiners in the Basic Sciences.

J. Charnley McKinley was elected secretary-treasurer of the Minnesota State Board of Examiners in the Basic Sciences.

Irvine McQuarrie was official representative of the United States Department of State at the second International Congress for the Protection of Children, Rome, Italy, September, 1937.

Harold O. Peterson was consultant roentgenologist to the Tuberculosis Division of the State Board of Control.

Leo G. Rigler was consultant roentgenologist to the Tuberculosis Division of the State Board of Control.

Harold A. Whittaker has served on the advisory committee of the United States Public Health Service.

Law School. Wilbur H. Cherry served as a member of the Advisory Committee on Rules of Federal Procedure, appointed by the United States Supreme Court.

Maynard E. Pirsig was elected secretary of the Minnesota Judicial Council.

Henry Rottschaefter was adviser to the Tax Committee of the House of Representatives of the Minnesota Legislature during the regular and special sessions of 1937.

College of Education. Clifford P. Archer was appointed a member of the State Legislative Committee, Minnesota Education Association, and a member of the Planning Committee, Minnesota Society for the Study of Education.

Leo J. Brueckner served as specialist on elementary schools, Regents' Inquiry into the Character and Cost of Education in the State of New York.

Harry P. Cooper was curriculum director, Works Progress Administration.

Albert M. Field was elected chairman of the Agricultural Curriculum Committee for the North Central Region, Federal Board for Vocational Education. He is a member of the Minnesota Executive Committee for planning the activities for the World's Poultry Congress in 1939.

Robert S. Hilpert served as associate specialist in art education, Regents' Inquiry into the Character and Cost of Education in the State of New York.

Palmer O. Johnson was consultant on President Roosevelt's Advisory Committee on Education, 1937-38.

Wesley E. Peik served as specialist on teacher education, Regents' Inquiry into the Character and Cost of Education in the State of New York, and was consultant for the Educational Policies Commission.

Dora V. Smith served as specialist on English teaching, Regents' Inquiry into the Character and Cost of Education in the State of New York.

Marvin J. Van Wagenen served as a member of the committee appointed by Governor Elmer A. Benson to determine whether or not there has been political interference with the functioning of the State Department of Education.

Edgar B. Wesley served as specialist in the social studies, Regents' Inquiry into the Character and Cost of Education in the State of New York. He was a member of the committee appointed by Governor Elmer A. Benson to determine whether or not there has been political interference with the functioning of the State Department of Education.

C. Gilbert Wrenn was appointed to a commission to spend three months with the American Youth Commission in Washington to write a report and monograph on the recreational needs of youth.

Graduate School. Guy Stanton Ford has served on the following non-governmental public commissions and committees: National Bureau of Economics, Social Science Research Council, Problems and Policies Commission of the Social Science Research Council, John Simon Guggenheim Memorial Foundation. He was elected a member of the Economic Policy Committee, 1938.

School of Business Administration. Roy G. Blakey served as chief of the Division of Economic Research, Bureau of Foreign and Domestic Commerce, United States Department of Commerce, 1935-37. He was chairman of the Com-

mittee on Income of Minnesota, Minnesota State Planning Board, and a member of the State Finance Committee of that board.

A. Hamilton Chute was supervisor of auditing and accounting activities, Works Progress Administration Nonrelief Research Project, Ohio Division.

Frederic B. Garver was appointed a member of the Technical Advisory Committee on the Study of Industrial Trends in Minnesota, Minnesota State Planning Board.

Richard L. Kozelka was appointed director of the study of an economic analysis of a farm trading center, Works Progress Administration study of Marshall, Minnesota, and director of research on the Minnesota State Planning Board study of industrial trends in Minnesota. He was a member of the Technical Committee on Personal Income Study in Minnesota, Minnesota State Planning Board, 1938.

Laurence R. Lunden served as consultant for the Minnesota State Banking Division.

Emerson P. Schmidt was economic analyst in charge of the preparation of a brief for the Province of Alberta submitted to the Dominion Royal Commission, 1937.

Russell A. Stevenson was appointed a member of the Advisory Committee of the Minnesota State Planning Board on the study of industrial trends in Minnesota, 1938.

Arthur R. Upgren was appointed economic consultant, government of Manitoba, in charge of the preparation and editing of *Manitoba's Case* consisting of a submission in nine parts presented to the Royal Commission on Dominion-Provincial Relations, 1937.

Dale Yoder was special examiner for the United States Employment Service, 1937.

General College. John G. Darley was appointed a member of the Technical Advisory Committee, Occupational Guidance Unit, Minnesota Veterans' Hospital.

Ivol Spafford surveyed for the General Education Board the current theory and practice in the development of home life studies in high school and college.

Department of Physical Education and Athletics. Carl L. Nordly served on the Recreation Committee of the Minnesota State Planning Board, assisted in the organization and promotion of community recreation in Glencoe, Litchfield, Stillwater, Red Wing, and in St. Louis County, and was an advisory member of the Recreation Committee of the American Legion.

Institute of Child Welfare. John E. Anderson is a member of the Advisory Committee of the Federal Children's Bureau Research project on delinquency in the St. Paul area. He is also a member of the board of directors, Minnesota Children's Home Society.

BUILDINGS AND GROUNDS

BUILDINGS AND GROUNDS

LAND

During 1936-38, an addition to the Main campus was made by the purchase of the following property:

The entire Block K, Tuttle's Addition to St. Anthony. This block is bounded on the south by 4th Street S.E., on the north by 5th Street S.E., on the west by 18th Avenue S.E., and on the east by 19th Avenue S.E., and comprises $2\frac{1}{2}$ acres.

The following property was added to the Northwest School and Station at Crookston:

Part of $N\frac{1}{2}$ of $NE\frac{1}{4}$ of Sec. 24, Tp. 150 N., R. 47, in Polk County, comprising 70 acres.

Part of $S\frac{1}{2}$ of $NE\frac{1}{4}$, and $SE\frac{1}{4}$ of Sec. 24, Tp. 150 N., R. 47 W., in Polk County, comprising 227 acres.

The following property was added to the West Central School and Station at Morris:

Part of Section 35, Township 125, R. 42, in Stevens County, comprising 286.57 acres.

By gift, Haydn S. and Mary M. Cole, Lot 4, Block 5, Holcombe's Addition to St. Paul, comprising 4,400 square feet, was added to the University Trust Funds.

LAND IMPROVEMENTS

Main campus.—The old Animal House, which was located on the River Road near the State Board of Health (Psychology Building), was torn down in order to make way for the new State Board of Health Building.

All of the houses in the block bounded by Fourth and Fifth Streets S.E., and Eighteenth and Nineteenth Avenues, were wrecked. The whole block was graded and made available for the installation of tennis courts.

The area immediately south of Vincent Hall and north of Washington Avenue has been landscaped.

Farm campus.—A concrete pavement has been installed between Administration and Plant Pathology Buildings. The pavement serves the Farm post office and all deliveries to the Administration Building. It has eliminated a difficult dust problem.

The driveway which serves the old Farm House and Snyder Hall was also paved.

The area surrounding Green Hall (new Forestry Building) has been landscaped.

A new well, 12 inches in diameter and 635 feet deep, was driven on the high point of land just back of the Home Economics Building, and a 1,000-gallon-per-minute deep well pump installed. The old wooden water tank was removed and a larger steel tank replaces it. Water is pumped directly into this tank from the new deep well and serves the entire Farm campus.

NEW BUILDINGS AND TUNNELS

Main campus.—The following buildings and additions have been completed on the Main campus:

1. Hydraulic Laboratory.
2. Addition to the State Board of Health Building.
3. Vincent Hall.
4. Reconstruction of Caterpillar Tractor Building into the Oak Street Laboratories for the Institute of Technology.

Hydraulic Laboratory.—This building was constructed with funds from the following sources:

| | |
|---|--------------|
| United States Works Progress Administration | \$411,768.00 |
| University funds | 55,000.00 |
| | <hr/> |
| | \$466,768.00 |

This building is located on Hennepin Island in the Mississippi River at the foot of Third Avenue Southeast. The building is of concrete and limestone construction, fireproof throughout. It is more fully described on pages 66-69. This laboratory is one of the finest in the United States, and credit for its completion must go to the United States Works Progress Administration, which provided a considerable amount of money and all of the labor for the construction.

Addition to the State Board of Health Building.—This addition, or building, was constructed with funds from the following sources:

| | |
|---|--------------|
| United States Public Works Administration | \$ 99,900.00 |
| State appropriations | 225,000.00 |
| | <hr/> |
| | \$324,900.00 |

While this building appears as an addition to the State Board of Health (Psychology Building), it really is an entirely new structure and was built to house the offices and laboratories of the State Board of Health. The building is of modernistic design, 88 feet wide, 105 feet deep, and five stories high.

Vincent Hall.—This building was constructed with funds as follows:

| | |
|---------------------------|--------------|
| State appropriation | \$300,000.00 |
|---------------------------|--------------|

It is located on the Mall, facing the Chemistry Building, and consequently is of the type of architecture which features all of the buildings on the Mall. It houses the School of Business Administration.

Reconstruction of Caterpillar Tractor Building into the Oak Street Laboratories for the Institute of Technology.—Remodeling of this structure was financed with funds from the following sources:

| | |
|---|--------------|
| United States Works Progress Administration | \$114,391.10 |
| University funds | 22,871.00 |
| | <hr/> |
| | \$137,262.10 |

The Oak Street Laboratories constitute research laboratories for the Institute of Technology. The building is two stories and a basement high and occupies an area 186 x 162 feet. The structure of this building is of the so-called heavy mill construction, which lends itself very readily to alterations. Railroad trackage enters directly into the building. Laboratories are provided for Aeronautical Engineering, Chemical Engineering, certain chemical researches, Concrete Engineering, and Heating and Ventilating.

Farm campus.—One major building has been constructed on the Farm campus, namely, Green Hall.

This was constructed with funds appropriated by the State Legislature. The total cost was \$250,000.

This building houses the Division of Forestry and is situated on the hill between the Farm Gymnasium and the School Girls' Dormitory. It is 153 feet long, 62 feet wide, three stories and a basement in height.

West Central School and Station, Morris.—A colonial type residence was constructed for the superintendent of this station, at a cost of approximately \$13,000.

This is a brick veneer structure. Plans and specifications for this building were all drawn in the Department of Buildings and Grounds.

University Forestry Station, Cloquet.—Two small dormitory cabins, each housing eight boys, were constructed out of logs at this station. A bathhouse was also built, with showers, one tub bath, and a Finnish bath.

IMPROVEMENTS AND ALTERATIONS

Main campus.—Besides the customary maintenance, the following major developments deserve special mention:

A new interceptor sewer system has been installed which takes all of the sanitary sewage from the Mississippi River and empties it directly into the main interceptor of the city of Minneapolis. The cost of this project was approximately \$86,000 and the Legislature appropriated funds for this work.

A new surface tunnel, some 325 feet in length, was constructed leading from the Chemistry Building to Vincent Hall. This tunnel carries the main heating lines, telephone cables, etc., into Vincent Hall.

Eddy Hall (the old School of Business Administration Building) has again undergone a complete overhauling. Its new uses are described on page 66.

Major changes were made in Wesbrook Hall to accommodate more adequately the Department of Visual Education, the Department of Anthropology, and the University Press.

A large underground storage vault was constructed on the north side of the Chemistry Building to handle more economically large quantities of chemical supplies.

A new steam generator unit capable of generating 120,000 pounds of steam per hour was added to the heating plant. This boiler is of the most modern type, completely water walled, and burns pulverized coal. Plans and specifications for this boiler were drawn in the Department of Buildings and Grounds.

At the University of Minnesota Hospitals, quarters were developed on the sixth floor for occupational therapy in the psychopathic ward. Major changes were also made for new Roentgen-therapy equipment.

At the Students' Health Service Building, the elevator was completely modernized.

Farm campus.—In the winter of 1937, a fire nearly destroyed the old Meat House. This building has been completely overhauled and modernized with classroom and laboratories. All of the work in the remodeling was done by the Works Progress Administration.

The Dining Hall dormitory has been completely overhauled. All partitions in this structure were removed and the whole inside rearranged so that each room has ample outside light. Fireproof stairways were installed in the front of the building, and all partitions in the structure were built up of metal lath and plaster. The ceilings also were plastered on metal lath. The main corridors in this structure lead directly to a fire escape on the outside of the building, as well as into the fireproof stairway on the inside. The entire arrangement is such that the fire hazard is reduced to a minimum. The University furnished all of the materials used in the remodeling and spent approximately \$22,462. The Works Progress Administration furnished all of the labor for the remodeling, to the value of approximately \$66,538.

The Radio Broadcasting Station, at Cleveland Avenue and County Road A-2, has been doubled in size, and a new 327-foot radio tower was erected.

A new tunnel for carrying steam and hot water lines was constructed from the Veterinary Building south, past the Veterinary Barn. Another was constructed at the rear of the Dining Hall, which carries the heating lines for the Dining Hall, Cold Storage Plant, Health Service, and the two boys' dormitories.

Three new transformer vaults have been constructed; one serves the Veterinary Group, another the Animal Husbandry Group, and the third serves all the dormitories. By having transformers located at these strategic points, we have very greatly increased the efficiency of the electric plant.

New temperature control apparatus was installed in each of the dormitories.

GIFTS

GIFTS, 1936-37

SUMMARY OF CASH GIFTS

(As of June 30, 1937)

| Description | No. | Amount | Total |
|-------------------------|-----|-----------|--------------|
| Loan funds | | | |
| New | 3 | \$ 725.00 | |
| Additions to old | 7 | 1,444.81 | |
| | | <hr/> | \$ 2,169.81 |
| Scholarships | | | |
| New | 2 | 187.56 | |
| Additions to old | 18 | 2,430.00 | |
| | | <hr/> | 2,617.56 |
| Fellowships | | | |
| New | 9 | 23,704.00 | |
| Additions to old | 1 | 5,000.00 | |
| | | <hr/> | 28,704.00 |
| Prizes | | | |
| New | 3 | 494.05 | |
| Additions to old | 20 | 940.00 | |
| | | <hr/> | 1,434.05 |
| Research and experiment | | | |
| New | 13 | 74,450.00 | |
| Additions to old | 15 | 44,639.00 | |
| | | <hr/> | 119,089.00 |
| Miscellaneous | | | |
| New | 6 | 8,040.54 | |
| Additions to old | 4 | 3,600.00 | |
| | | <hr/> | 11,640.54 |
| | | | <hr/> |
| | | | \$165,654.96 |

LOAN FUNDS

New

| | |
|-----------|---|
| \$ 500.00 | From Minnesota League of Nursing Education for a loan fund to be available for the purpose of advanced study to qualified members of the Minnesota Nurses' Association. |
| 200.00 | From the Minnesota Book Store, to establish the Minnesota Book Store Emergency Loan Fund. |
| 25.00 | From the Minnesota Dietetic Association to establish a loan fund in memory of Selma Kvale. |
| <hr/> | |
| \$ 725.00 | |

THE PRESIDENT'S REPORT

LOAN FUNDS

Additions to Previous Gifts

| | |
|-----------|---|
| \$ 700.00 | Law Alumni Loan Fund. |
| 450.00 | Agricultural Faculty Women's Club Loan Fund. |
| 200.00 | Women's Auxiliary of Minneapolis Dental Society Loan Fund. |
| 40.81 | Ruedlinger Memorial Fund (name changed from Twin City Nursery-men's Loan Fund). |
| 40.00 | Anna R. Goldberg Loan Fund. |
| 12.00 | Bertha Weiskopf Loan Fund. |
| 2.00 | General Student Loan Fund—anonymous gift. |

\$ 1,444.81

SCHOLARSHIPS

New

| | |
|-----------|--|
| \$ 100.00 | C. L. Lewis, Jr. Scholarship in Forestry, to be awarded to an undergraduate student in Forestry. |
| 87.56 | From Student Corporation of the 1936 Forestry and Biological Station at Itasca Park, for two scholarships of \$35 each; \$17.56 to be used for improvement of the grounds. |

\$ 187.56

SCHOLARSHIPS

Additions to Previous Gifts

| | |
|-----------|---|
| \$ 500.00 | Minneapolis College Women's Club Scholarship. |
| 325.00 | Law Faculty Scholarship and Loan Fund. |
| 250.00 | Pullman Company Scholarship from the International Live Stock Exposition. |
| 200.00 | Northwest Daily Press Association Journalism Scholarship (\$100.00 each year, 1936-37 and 1937-38). |
| 125.00 | Florence A. Brewster Scholarship (1937-38). |
| 125.00 | Henry Webb Brewster Scholarship (1937-38). |
| 105.00 | Minnesota State Pharmaceutical Scholarship (1937-38). |
| 100.00 | Agricultural Faculty Women's Club Scholarship (1937-38). |
| 100.00 | P. E. O. Scholarship. |
| 100.00 | Marian L. Vannier Scholarship. |
| 100.00 | Minnesota Home Economics Association Freshman Scholarship (1937-38). |
| 100.00 | Board of Associated Business Students Scholarships. |
| 50.00 | Alpha Zeta Scholarship. |
| 50.00 | Home Economics Association Scholarship (1937-38). |
| 50.00 | Phi Beta of Mu Phi Epsilon Scholarship. |
| 50.00 | Agricultural Faculty Women's Club Scholarship for the Central School of Agriculture (1937-38). |
| 50.00 | Minneapolis Women's Advertising Club Scholarship. |
| 50.00 | Alpha Tau Delta Scholarship (1937-38). |

\$ 2,430.00

PRIZES

New

- \$ 255.00 George Davis Bivin Foundation, Inc., Prizes, to be distributed as awards for papers on the "Relationship of the Emotions to the Mental Hygiene of the Child."
- 174.05 From alumni of the School of Architecture, for purchase of a medal as an annual award for excellence in architectural design.
- 65.00 Minnesota Book Store Prizes in English, three prizes, \$35, \$20, and \$10, to be awarded to the sophomore composition courses in the Department of English.
- Medallion from Alpha Kappa Psi Fraternity, for an annual award to the junior man in the School of Business Administration who has maintained the highest scholastic standing throughout his junior year.

\$ 494.05

PRIZES

Additions to Previous Gifts

- \$ 175.00 Pillsbury Debate Prizes.
- 100.00 Peavey Prizes.
- 100.00 Southern Minnesota Medical Association Prize.
- 75.00 American Society of Mechanical Engineers Prizes.
- 65.00 Minnesota Book Store Prize Contest in Journalism.
- 50.00 Louise M. Powell Prize.
- 50.00 Phi Upsilon Omicron Prize (1937-38).
- 50.00 Lambda Alpha Psi Prize.
- 50.00 Gargoyle Club Prizes (books).
- 46.00 American Society of Civil Engineers Prize (handbook and fees).
- 40.00 Northern States Power Company Prize.
- 27.00 School of Chemistry Faculty Prize (books).
- 25.00 Pi Beta of Chi Omega Prize.
- 25.00 Tau Beta Pi Prize (medal, handbook, and notebook).
- 15.00 Alpha Alpha Gamma Prize (books).
- 15.00 Phi Lambda Upsilon Prize.
- 10.00 Alpha Chi Sigma Twin City Alumni Association Prize (books).
- 8.00 Chi Epsilon Prize (handbook).
- 7.00 Pi Tau Sigma Prize in Mechanical Engineering (handbook).
- 7.00 Eta Kappa Nu Prize in Electrical Engineering (handbook).

\$ 940.00

FELLOWSHIPS

New

- \$ 5,000.00 Emil Oberhoffer Memorial Fund, for a fellowship in music not to exceed \$500 per year.

\$ 5,000.00

THE PRESIDENT'S REPORT

FELLOWSHIPS

Additions to Previous Gifts

| | |
|-------------|--|
| \$14,500.00 | Minneapolis General Hospital Fellowships, for continuation of twelve fellowships and eight instructorships for the period July 1, 1936 to June 30, 1937. |
| 2,750.00 | American Dry Milk Institute Fellowship (1937-38). |
| 2,000.00 | National Research Council and National Live Stock Fellowships. |
| 900.00 | American Soya Products Corporation Fellowship. |
| 825.00 | Miller Hospital Fellowships (1937-38). |
| 750.00 | du Pont Fellowship. |
| 750.00 | American Creosoting Company Fellowship. |
| 600.00 | Fellowship for Graduate Students in Social Work. |
| 629.00 | Charles Peter Sigerfoos Fellowship in Zoology. |
| <hr/> | |
| \$23,704.00 | |

RESEARCH

New

| | |
|-------------|---|
| \$36,000.00 | From the Rockefeller Foundation for research in biology and medicine. |
| 20,000.00 | From the Rockefeller Foundation for training in public administration. |
| 10,000.00 | From the National Rock and Slag Wool Association for research program to study the various problems involved in the accumulation of moisture and frost in the walls and other parts of insulated buildings. |
| 3,000.00 | From Mead Johnson and Company for research in a study of water and mineral metabolism of newly-born infants. |
| 1,000.00 | From the Eli Lilly Company for an investigation of chronic arthritis. |
| 1,000.00 | From the Sandoz Chemical Works, for research work on the three digilanids of heart muscle to be carried on by Dr. M. B. Visscher. |
| 1,000.00 | From the Minnesota Chapter of Sigma Xi to further scientific activities of research staff in the sciences. |
| 600.00 | From the Dow Chemical Company for a co-operative scientific research relative to the use of methyl bromide as an insect fumigant. |
| 550.00 | From the Halverson Research Association, Inc., for research on sewage treatment and water purification. |
| 500.00 | From the American Society of Heating and Ventilating Engineers for a co-operative research in heating and ventilating. |
| 300.00 | From the Engineering Foundation through American Society of Civil Engineers for a study of sedimentation at the confluence of rivers. |
| 300.00 | From the Central Fibre Corporation for use in connection with a study of hemp and flax fiber. |
| 200.00 | From the American Medical Association for research in blood iodine in goiter. |
| <hr/> | |
| \$74,450.00 | |

RESEARCH

Additions to Previous Gifts

| | |
|-------------|---|
| \$15,000.00 | Northwest Research Foundation. |
| 11,000.00 | Carnegie Foundation for the Advancement of Teaching—Research in Art Education. |
| 9,000.00 | Cancer Institute Research (1936-37). |
| 2,500.00 | Rockefeller Foundation Research on Lipoid Metabolism. |
| 1,500.00 | Minnesota and Ontario Paper Company Research. |
| 1,500.00 | Milk Distributor's Research. |
| 1,000.00 | Firestone Fund. |
| 1,000.00 | Organic Sea Products Corporation Research Grant. |
| 500.00 | Minnesota State Pharmaceutical Association Research. |
| 500.00 | National Academy of Sciences (Gould Fund) Astronomical Research Fund. |
| 500.00 | American Society of Heating and Ventilating Engineers Research in Thermal Conductivity. |
| 289.00 | Medical Social Work Fund. |
| 225.00 | Mead Johnson and Company Research in Pediatrics. |
| 75.00 | Harris Memorial Research. |
| 50.00 | Coffman Educational Research Foundation Fund. |
| | \$50.00 L. D. Coffman. |

\$44,639.00

MISCELLANEOUS

New

| | |
|-------------|--|
| \$ 3,280.54 | From the Board of Trustees of the Endowment Fund of the School of Nursing; balance in the fund turned over to the University. |
| 2,820.00 | From medical alumni, medical faculty, and friends of Dean Elias Potter Lyon, contributions to a fund of at least \$5,000 to endow a medical lectureship. |
| | \$2,620 contributions |
| | 200 Salary Contributions Trust and Investment Funds |
| 1,500.00 | From Salary Contributions Trust and Investment Funds, for a portrait of President L. D. Coffman to be presented to the University. |
| 200.00 | For the Minnesota Union Fund, from Dr. F. P. Keppel of the Carnegie Corporation of New York. Check designated as contribution to "emergency fund." |
| 200.00 | From a group of Norwegian women, to be used for a Scandinavian section of the museum. |
| 40.00 | From an anonymous donor, to cover fees for a federal student. |

\$ 8,040.54

THE PRESIDENT'S REPORT

MISCELLANEOUS

Additions to Previous Gifts

| | |
|-------------|---|
| \$ 2,000.00 | For professorship in the School of Business Administration, from the Emergency Committee in Aid of Displaced German Scholars. |
| 1,200.00 | Minneapolis General Hospital Pediatrics Directorship. To supplement salary of Dr. Albert V. Stoesser as chief of the Minneapolis General Hospital Department of Pediatrics. |
| 200.00 | Judd Lectureship Fund. |
| 200.00 | Andrew Boss Library Book Fund. |

\$ 3,600.00

MISCELLANEOUS GIFTS

Dental chair from Mrs. E. B. Hause for the Department of Agriculture Health Service.

Peet-Grady Fly Testing Chamber and Insectary from the Research Laboratories, Inc., for Division of Entomology and Economic Zoology.

Library of Dr. R. O. Beard to University Medical School, under the terms of his will.

Two high chairs to the University of Minnesota Hospitals from Crippled Child's Relief.

Rowboat from the Student Corporation of 1936 Forestry and Biological Station at Itasca Park.

Electrical equipment from Eastern Electric Company, for Electrical Engineering.

Display case of products prepared from corn from the Commercial Solvents Corporation for the Division of Agricultural Biochemistry.

Four books from Mrs. J. Arthur Harris in memory of her father, George C. Lay, to the University Art Gallery.

Equipment for a laboratory for research on light, from the Northern States Power Company and the Pittsburgh Reflector Company, to the Department of Psychology.

Collection of Scandinavian plants from Mr. C. E. Gustafson, Trälleborg, Sweden, for the Department of Botany.

Autoclave from the Northwest Paper Company to the Division of Agricultural Biochemistry.

Twenty-five prints by modern American artists, from the Carnegie Corporation of New York, to the University Art Gallery.

65,891 gifts to the Library from 14,832 donors.

Museum piece of welded metals from Mr. Adelbert Hubbard to the Department of Electrical Engineering.

GIFTS, 1937-38

SUMMARY OF CASH GIFTS

(As of June 30, 1938)

| Description | No. | Amount | Total |
|------------------------|-----|--------------|--------------|
| Loan funds | | | |
| New | 3 | \$ 10,373.95 | |
| Additions to old | 4 | 11,669.22 | |
| | | <hr/> | \$ 22,043.17 |
| Scholarships | | | |
| New | 5 | 14,580.00 | |
| Additions to old | 14 | 5,380.94 | |
| | | <hr/> | 19,960.94 |
| Fellowships | | | |
| New | 1 | 29,800.00 | |
| Additions to old | 9 | 23,314.00 | |
| | | <hr/> | 53,114.00 |
| Prizes | | | |
| New | 2 | 434.00 | |
| Additions to old | 20 | 1,042.50 | |
| | | <hr/> | 1,476.50 |
| Research | | | |
| New | 20 | 132,621.25 | |
| Additions to old | 10 | 29,429.23 | |
| | | <hr/> | 162,050.48 |
| Miscellaneous | | | |
| New | 6 | 177,154.00 | |
| Additions to old | 7 | 103,489.75 | |
| | | <hr/> | 280,643.75 |
| | | | <hr/> |
| | | | \$539,288.84 |

LOAN FUNDS

New

| | |
|-------------|--|
| \$ 5,118.95 | Under the will of Carrie M. Harper, \$5,000 to the First National Bank and Trust Company in trust for the establishment of the Josephine Louise Harper Memorial Fund, the income to be disbursed by the University to deserving students; \$118.95 income for period January 7, 1936 to January 7, 1937. |
| 5,000.00 | Under the will of James W. O'Neil, for the establishment of the Dr. James W. and Alice B. O'Neil Fund for Deserving Students in Dentistry. |
| 255.00 | From Sigma Delta Gamma, to establish a loan fund for graduate students in social work. |
| <hr/> | |
| \$10,373.95 | |

THE PRESIDENT'S REPORT

LOAN FUNDS

Additions to Previous Gifts

| | |
|-------------|--|
| \$11,504.22 | Law Alumni Loan Fund. |
| 100.00 | Minnesota Grand Army of the Republic and Women's Relief Corps Scholarship and Loan Fund. |
| 55.00 | Anna R. Goldberg Loan Fund. |
| 10.00 | General Student Loan Fund. |
| | From the Mothers' Club of Chi Psi Fraternity. To be known as the Chi Psi Mothers' Student Loan Fund when sufficient contributions have been received to establish a separate fund. |
| <hr/> | |
| \$11,669.22 | |

SCHOLARSHIPS

New

| | |
|-------------|---|
| \$ 9,500.00 | Under the will of Jessie P. Schlenker to establish the Carl Schlenker Scholarship Fund. |
| 4,950.00 | From Sears Roebuck and Company, to establish a scholarship for farm boys attending the College or Schools of Agriculture. |
| 50.00 | From the Twin City Panhellenic Association, to establish an annual scholarship for a senior woman. |
| 50.00 | From an anonymous donor, to provide a scholarship for Miss Rosalyn Schmilovitz. |
| 30.00 | From Detroit, Michigan, alumnae to establish the "Florence Lake Jones Scholarship Fund." |
| <hr/> | |
| \$14,580.00 | |

SCHOLARSHIPS

Additions to Previous Gifts

| | |
|-------------|--|
| \$ 3,660.00 | Received from the trustees under the last will and testament of La Verne Noyes, for the La Verne Noyes Scholarships. |
| 725.00 | Law Faculty Scholarship and Loan Fund. |
| 250.00 | Presser Foundation Scholarship in Music. |
| 105.00 | Minnesota State Pharmaceutical Scholarship (1938-39). |
| 100.00 | C. L. Lewis, Jr. Scholarship in Forestry. |
| 100.00 | P. E. O. Scholarship. |
| 100.00 | Northwest Daily Press Association Journalism Scholarship (1938-39). |
| 100.00 | Minnesota Home Economics Freshman Scholarship (1938-39). |
| 50.00 | Alpha Tau Delta Scholarship. |
| 50.00 | Home Economics Association Scholarship (1938-39). |
| 50.00 | Alpha Zeta Scholarship. |
| 50.00 | Minneapolis Women's Advertising Club Scholarship. |
| 25.00 | Gisle Bothne Scholarship of Delta Sigma Psi. |
| 15.94 | Itasca Park Student Corporation Fund. |

\$ 5,380.94

PRIZES

New

- \$ 425.00 From the Alpha Alumnae Chapter of Kappa Epsilon, for an award to the Kappa Epsilon student with highest scholastic average, to defray expenses of the State Board examination and registration.
- 9.00 From the Minnesota Student Branch, Institute of the Aeronautical Sciences, (\$5 for books, 2-year membership in the Institute of Aeronautical Sciences, and 2-year paid up subscription to the *Institute of the Aeronautical Sciences Journal*) to be awarded to the sophomore in Aeronautical Engineering who has maintained the highest scholastic standing during his first five quarters of residence.

\$ 434.00

PRIZES

Additions to Previous Gifts

- \$ 175.00 Pillsbury Debate Prize.
 100.00 Peavey Prizes.
 100.00 Charles Lyman Greene Prize.
 100.00 Southern Minnesota Medical Association Prize.
 75.00 American Society of Mechanical Engineers Prize.
 65.00 Minnesota Book Store Prize.
 50.00 Lambda Alpha Psi Prize.
 50.00 Gargoyle Club Prizes (books).
 50.00 Phi Upsilon Omicron Prize (1938-39).
 46.00 American Society of Civil Engineers Prize (handbook and fees).
 40.00 Louise M. Powell Prize.
 40.00 Northern States Power Company Prize.
 37.50 School of Chemistry Faculty Prize (books).
 35.00 Minnesota Book Store Prize Fund.
 25.00 Tau Beta Pi Prize (medal, handbook, and notebook).
 25.00 Pi Beta of Chi Omega Prize.
 10.00 Alpha Chi Sigma Twin City Alumni Association Prize (books).
 7.00 Pi Tau Sigma Prize in Mechanical Engineering (handbook).
 7.00 Eta Kappa Nu Prize in Electrical Engineering (handbook).
 5.00 Chi Epsilon Prize (handbook).

\$ 1,042.50

FELLOWSHIPS

New

- \$25,000.00 From Mr. Haydn S. Cole for the Haydn S. and Mary M. Cole Fellowship, to endow a fellowship or fellowships in the Division of Orthopedic Surgery.
- 4,000.00 From the Carnegie Corporation of New York, for the support of fellowships in dental research.
- 800.00 From the Standard Oil Company of California, to establish a graduate fellowship in geophysics and geology for 1938-39.

\$29,800.00

THE PRESIDENT'S REPORT

FELLOWSHIPS

Additions to Previous Gifts

| | |
|-------------|--|
| \$14,500.00 | Minneapolis General Hospital Fellowships, for continuation of twelve fellowships and seven instructorships for the period July 1, 1937 to June 30, 1938. |
| 2,000.00 | National Research Council and National Live Stock Fellowships. |
| 1,902.84 | } and securities, par value \$2,000 (estimated market value \$761.16) for Class of 1890 Fellowship. |
| 761.16 | |
| 1,000.00 | Baker Fellowship in Analytical Chemistry. |
| 750.00 | American Creosoting Company Fellowship. |
| 750.00 | du Pont Fellowship for 1938-39. |
| 600.00 | Dairy and Ice Cream Machinery and Supplies Association Fellowship. |
| 600.00 | Dow Chemical Company Fellowship. |
| 450.00 | Fellowship for Graduate Students in Social Work. |
| <hr/> | |
| \$23,314.00 | |

RESEARCH

New

| | |
|--------------|---|
| \$ 50,000.00 | From the trustees of the Stevens Avenue Home for Children and Aged Women, Minneapolis to establish a children's psychiatric clinic in connection with the Departments of Pediatrics and Psychiatry in the Medical School. |
| 25,000.00 | From the Hormel Company, to establish the Hormel Foundation for the promotion of education and research in the field of food technology. |
| 25,000.00 | For the Floyd B. Olson Cancer Memorial Research Fund (legislative appropriation). |
| 16,000.00 | From the Commonwealth Fund for a study on human growth and developmental structure under the direction of Dr. R. S. Scammon. |
| 6,000.00 | From the Rockefeller Foundation, for research in the Department of Psychology. |
| 1,500.00 | From the Hiram Walker Distilling Company for research on the value of distillers' food for growing chickens and laying hens. |
| 1,450.00 | For expenses in connection with Mr. Abbe's botanical research expedition to Richmond Gulf, Hudson Bay. |
| | \$500.00 American Academy of Arts and Science. |
| | 450.00 Penrose Fund of the American Philosophical Society. |
| | 300.00 Smithsonian Institution. |
| | 200.00 Arnold Arboretum, Harvard University. |
| 1,000.00 | From the Organic Sea Products Corporation for studies pertaining to the use of seaweed for animal food. |
| 1,000.00 | From the Joslyn Manufacturing Company, for conducting surge tests of lightning arresters. |
| 1,000.00 | From the Farmer Seed and Nursery Company for a study of hybrid seed corn improvement. |
| 950.00 | From the American Society of Civil Engineers for research on the stability of sand dams. |
| 850.00 | From the Carnegie Corporation of New York for research on pre-literate science. |

- 450.00 From Merck and Company, Inc., for the salary of an assistant to Dr. Lee I. Smith, to aid him in connection with his chemical researches on Vitamin E.
- 400.00 From Mrs. C. C. Webber, for the Mosquito Control Research Fund, for a survey of the species of pest mosquitoes and their breeding places in a Crystal Bay area.
- 400.00 From Minnesota Hybrid Seed Corn Growers Association for a study of hybrid corn trials in central and southern Minnesota.
- 375.00 From the American Medical Association for research on physiology of sulphaniilamide, under the direction of Dr. J. T. King.
- 375.00 To establish a fund for the promotion of research in the Department of Surgery in the Medical School.
 \$300.00 from Mr. C. A. Remington.
 75.00 from an anonymous donor.
- 300.00 From the American Society of Civil Engineers for research on sedimentation at the confluence of rivers.
- 200.00 From the Musher Foundation, Inc. for a research on the use of avienized parchment paper as a wrapping for butter.
- 200.00 From the American Medical Association for research on iodine in blood.
- 171.25 From the American Medical Association through the University of California for continuation of research on the relation of pituitary glands to carbohydrate metabolism, by Dr. Lee T. Samuels.

\$132,621.25

RESEARCH

Additions to Previous Gifts

- \$ 20,000.00 National Rock and Slag Wool Association Research.
 2,000.00 Rock Analysis Laboratory.
 1,100.00 Organic Sea Products Corporation Research.
 1,000.00 Eli Lilly Research on Chronic Arthritis.
 1,000.00 The Firestone Fund.
 1,000.00 Sandoz Chemical Works Research on Heart Muscles.
 930.00 Central Fibre Corporation Research.
 500.00 American Society of Heating and Ventilating Engineers Fund.
 500.00 Minnesota State Pharmaceutical Association Research.
 500.00 American Creosoting Company Research (Wood Preservatives).
 362.63 Sigma Xi Research Fund.
 336.60 Medical Social Work Fund.
 200.00 American Medical Association Research on Iodine in the Blood.

\$ 29,429.23

THE PRESIDENT'S REPORT

MISCELLANEOUS

New

| | |
|--------------|--|
| \$122,260.00 | From the General Education Board for the Visual Education Service over a three-year period, beginning February 1, 1938. |
| 37,000.00 | From the Commonwealth Fund over a five-year period toward development of postgraduate medical education at the University of Minnesota, \$10,000 for each of first two years and \$8,000, \$6,000, and \$3,000 for the three succeeding years. |
| 10,000.00 | From Mrs. Helen R. Dwan, to establish and support a serum center in the Department of Pediatrics. |
| 7,319.00 | From the Citizens Aid Society for the purchase of a deep therapy X-ray machine for the Cancer Institute. |
| 300.00 | } From the Doris Duke Foundation. } From the Russell Sage Foundation. |
| 200.00 | |
| | For Conference on Training for Recreation Leadership, held at the University of Minnesota, December 9-11, 1937. |
| 75.00 | From physicians in attendance at institutes at Center for Continuation Study, for a silver tea and coffee service for the Center dining room, in appreciation of the facilities provided by the Center. |

\$177,154.00

MISCELLANEOUS

Additions to Previous Gifts

| | |
|--------------|--|
| \$ 81,000.00 | General Education Board General College Fund. \$25,000 third payment on grant of \$25,000 per year for three years, and \$56,000 to continue the work for a two-year period. |
| 18,000.00 | United States Public Service Training Center Fund. |
| 2,000.00 | Professorship in School of Business Administration, from Emergency Committee in Aid of Displaced German Scholars. |
| 1,200.00 | Minneapolis General Hospital Pediatrics Directorship for 1937-38. |
| 975.00 | Twin City Jewish-American Lectureship Fund. |
| 200.00 | Judd Lectureship in Surgery. |
| 114.75 | School of Nursing Endowment Fund. |

\$103,489.75

THE UNIVERSITY

MISCELLANEOUS GIFTS

Case of mounted birds from Mrs. A. J. McGuire to the North Central School and Experiment Station, Grand Rapids.

Three tiers of lockers from Westerlin & Campbell to the Dairy Division, Department of Agriculture.

10,000 francs from the French Government for the purchase of French literature and scientific journals.

Publications from Dr. Oscar A. Weise to the School of Dentistry.

Publications to the Library from the Society of International Cultural Relations, Tokyo, Japan.

Six books from the Junior Corporation of 1937, Division of Forestry, to the Forestry Experiment Station at Cloquet.

Nonexclusive right during the life of the copyright on the song "We're on Our Way" from Frank J. Black of the National Broadcasting Company.

Rowboat from the Student Corporation of the 1937 Forestry and Biological Station at Itasca Park.

Bust of the late Dr. Thomas Edward Weeks from Dean W. F. Lasby, for the School of Dentistry.

Woodcut from Mr. Joseph Albers to the University Art Gallery.

Oil painting of Dr. Alfred Owre from the dentistry class of 1918, for the School of Dentistry.

142,437 gifts of books to the Library from 9,821 donors.

CONCLUSION

The statistical reports of the registrar and of the comptroller and the most significant portions of the reports prepared by the deans of the colleges and heads of other university administrative units are presented on the following pages.

Respectfully submitted,

L. D. COFFMAN, *President*

REPORT OF THE REGISTRAR

REPORT OF THE REGISTRAR

To the President of the University:

SIR: I present the following report for the biennium 1936-38.

The following tables show enrolment in the several units of college grade, the Extension Division, and in subcollegiate units. The net grand total of collegiate enrolments including the Graduate School and the Summer Session but excluding all duplicate registrations reached a total of 20,024 in 1936-37, an increase of 9.3 per cent over the previous year, and a total of 20,461 in 1937-38, a further increase of 2.1 per cent for the second year of the biennium.

The enrolment in subcollegiate units increased 2 per cent in 1936-37 with a slight addition, less than 1 per cent, in 1937-38. Gains of 14 per cent are recorded in extension enrolment for each year of the biennium. The total number of individuals enrolled in evening extension, correspondence study, and extension short courses for 1937-38 reached a total of 12,507. Data on the enrolment in the Center for Continuation Study appear for the first time in this report. There were 926 individuals enrolled in 23 courses held in 1936-37, and 1,861 individuals were enrolled in 32 courses held in 1937-38.

In 1936-37 the University conferred 2,585 degrees as compared with 2,425 in the previous year, and during the last year of the biennium the total number of degrees reached 2,825. These figures include the Bachelor's degrees, professional degrees, and advanced degrees as well as the associate in arts degree conferred in the General College, and the two- and three-year diplomas conferred on graduates in Dental Hygiene and Nursing, respectively. A summary of the degrees conferred appears in Table VIIA.

Tables VIII, IX, and X show the sources of enrolment of new students from high schools, the sources of students admitted with advanced standing, and the geographical distribution of all university students for each year of the biennium. One significant feature in connection with these tables deserves special mention, namely, the decrease in number of nonresident students, resulting from the adoption of new rules governing the admission of nonresident undergraduates during the second year of the biennium. During the first year of the biennium 436 students were admitted from high schools outside of Minnesota. In 1937-38 this number was reduced to 307. Similarly the number of students admitted from colleges in other states was reduced from 531 in 1936-37 to 448 in 1937-38. The decreases appear largely in states more remote from Minnesota. Comparisons for individual states may be made from the detailed tables.

TABLE I. COLLEGIATE STUDENTS BY SCHOOLS AND COLLEGES, 1936-38

| COLLEGE OR SCHOOL | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|-------------------------|--------------|-------|-------|--------------|-------|-------|-------|-------|
| | Men | Women | Total | Men | Women | Total | | |
| GENERAL COLLEGE: | | | | | | | | |
| Second year | 214 | 124 | 338 | 169 | 103 | 272 | ..... | 66 |
| First year | 359 | 236 | 595 | 380 | 249 | 629 | 34 | ..... |
| Unclassed | 2 | 3 | 5 | 9 | 14 | 23 | 18 | ..... |
| Totals | 575 | 363 | 938 | 558 | 366 | 924 | ..... | 14 |

THE PRESIDENT'S REPORT

TABLE I—Continued

| COLLEGE OR SCHOOL | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|---|--------------|-------|-------|--------------|-------|-------|-------|-------|
| | Men | Women | Total | Men | Women | Total | | |
| UNIVERSITY COLLEGE: | | | | | | | | |
| Seniors | 19 | 21 | 40 | 16 | 11 | 27 | ..... | 13 |
| Juniors | 9 | 12 | 21 | 9 | 12 | 21 | ..... | ..... |
| Sophomores | 3 | 1 | 4 | 3 | 2 | 5 | ..... | 1 |
| Freshmen | 1 | 1 | 2 | 1 | ..... | 1 | ..... | 1 |
| Unclassed ..... | ..... | 2 | 2 | 1 | 1 | 2 | ..... | ..... |
| Totals | 32 | 37 | 69 | 30 | 26 | 56 | ..... | 13 |
| SCIENCE, LITERATURE, AND THE ARTS: | | | | | | | | |
| Seniors | 210 | 238 | 448 | 213 | 266 | 479 | ..... | 31 |
| Juniors | 212 | 262 | 474 | 242 | 232 | 474 | ..... | ..... |
| Sophomores | 1,499 | 1,024 | 2,523 | 1,472 | 967 | 2,439 | ..... | 84 |
| Freshmen | 1,116 | 862 | 1,978 | 1,032 | 798 | 1,830 | ..... | 148 |
| Unclassed | 83 | 93 | 176 | 72 | 118 | 190 | ..... | 14 |
| Totals | 3,120 | 2,479 | 5,599 | 3,031 | 2,381 | 5,412 | ..... | 187 |
| INSTITUTE OF TECHNOLOGY: | | | | | | | | |
| Seniors | 409 | 6 | 415 | 379 | 7 | 386 | ..... | 29 |
| Juniors | 427 | 6 | 433 | 521 | 10 | 531 | ..... | 98 |
| Sophomores | 544 | 5 | 549 | 657 | 7 | 664 | ..... | 115 |
| Freshmen | 717 | 1 | 718 | 719 | 4 | 723 | ..... | 5 |
| Unclassed | 8 | 3 | 11 | 7 | 1 | 8 | ..... | 3 |
| Totals | 2,105 | 21 | 2,126 | 2,283 | 29 | 2,312 | ..... | 186 |
| AGRICULTURE, FORESTRY, AND HOME ECONOMICS: | | | | | | | | |
| Seniors | 154 | 103 | 257 | 239 | 127 | 366 | ..... | 109 |
| Juniors | 191 | 91 | 282 | 217 | 112 | 329 | ..... | 47 |
| Sophomores | 331 | 208 | 539 | 288 | 225 | 513 | ..... | 26 |
| Freshmen | 307 | 177 | 484 | 355 | 154 | 509 | ..... | 25 |
| Unclassed | 32 | 22 | 54 | 32 | 14 | 46 | ..... | 8 |
| Totals | 1,015 | 601 | 1,616 | 1,131 | 632 | 1,763 | ..... | 147 |
| LAW: | | | | | | | | |
| Seniors | 55 | 2 | 57 | 67 | 3 | 70 | ..... | 13 |
| Juniors | 46 | 1 | 47 | 58 | 4 | 62 | ..... | 15 |
| Sophomores | 100 | 6 | 106 | 82 | 4 | 86 | ..... | 20 |
| Freshmen | 139 | 10 | 149 | 105 | 14 | 119 | ..... | 30 |
| Unclassed | 2 | ..... | 2 | 4 | ..... | 4 | ..... | 2 |
| Totals | 342 | 19 | 361 | 316 | 25 | 341 | ..... | 20 |
| MEDICINE: | | | | | | | | |
| Interns | 152 | 4 | 156 | 146 | 3 | 149 | ..... | 7 |
| Seniors | 96 | 3 | 99 | 90 | 6 | 96 | ..... | 3 |
| Juniors | 130 | 4 | 134 | 125 | 9 | 134 | ..... | ..... |
| Sophomores | 132 | 7 | 139 | 131 | 9 | 140 | ..... | 1 |
| Freshmen | 130 | 10 | 140 | 112 | 8 | 120 | ..... | 20 |
| Unclassed | 1 | 1 | 2 | 4 | ..... | 4 | ..... | 2 |
| Totals | 641 | 29 | 670 | 608 | 35 | 643 | ..... | 27 |
| MEDICAL TECHNOLOGY | 1 | 86 | 87 | 1 | 86 | 87 | ..... | ..... |
| NURSING: | | | | | | | | |
| Third year ..... | ..... | 51 | 51 | ..... | 77 | 77 | ..... | 26 |
| Second year ..... | ..... | 94 | 94 | ..... | 83 | 83 | ..... | 11 |
| First year ..... | ..... | 172 | 172 | ..... | 163 | 163 | ..... | 9 |
| Affiliates ..... | ..... | 293 | 293 | ..... | 338 | 338 | ..... | 45 |
| Unclassed ..... | ..... | 50 | 50 | ..... | 26 | 26 | ..... | 24 |
| Totals ..... | ..... | 660 | 660 | ..... | 687 | 687 | ..... | 27 |

TABLE I.—Continued

| COLLEGE OR SCHOOL | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|-----------------------------------|--------------|-------|--------|--------------|-------|--------|-------|-------|
| | Men | Women | Total | Men | Women | Total | | |
| DENTISTRY: | | | | | | | | |
| Seniors | 121 | 1 | 122 | 114 | 1 | 115 | ..... | 7 |
| Juniors | 92 | 2 | 94 | 99 | 2 | 101 | ..... | 7 |
| Prejuniors | 98 | 2 | 100 | 75 | 1 | 76 | ..... | 25 |
| Unclassed ..... | ..... | ..... | ..... | 4 | ..... | 4 | ..... | 4 |
| Totals | 311 | 5 | 316 | 292 | 4 | 296 | ..... | 20 |
| DENTAL HYGIENE: | | | | | | | | |
| Second year ..... | ..... | 35 | 35 | ..... | 38 | 38 | ..... | 3 |
| First year ..... | ..... | 42 | 42 | ..... | 42 | 42 | ..... | ..... |
| Totals ..... | ..... | 77 | 77 | ..... | 80 | 80 | ..... | 3 |
| PHARMACY: | | | | | | | | |
| Seniors | 43 | 7 | 50 | 41 | 5 | 46 | ..... | 4 |
| Juniors | 45 | 4 | 49 | 39 | 6 | 45 | ..... | 4 |
| Sophomores | 36 | 6 | 42 | 31 | 10 | 41 | ..... | 1 |
| Freshmen | 25 | 5 | 30 | 27 | 5 | 32 | ..... | 2 |
| Unclassed | 2 | 1 | 3 | 3 | ..... | 3 | ..... | ..... |
| Totals | 151 | 23 | 174 | 141 | 26 | 167 | ..... | 7 |
| EDUCATION: | | | | | | | | |
| Seniors | 130 | 372 | 502 | 142 | 390 | 532 | ..... | 30 |
| Juniors | 159 | 352 | 511 | 189 | 391 | 580 | ..... | 69 |
| Sophomores | 92 | 188 | 280 | 97 | 133 | 230 | ..... | 50 |
| Freshmen | 105 | 79 | 184 | 101 | 88 | 189 | ..... | 5 |
| Unclassed | 86 | 285 | 371 | 113 | 324 | 437 | ..... | 66 |
| Totals | 572 | 1,276 | 1,848 | 642 | 1,326 | 1,968 | ..... | 120 |
| BUSINESS ADMINISTRATION: | | | | | | | | |
| Seniors | 147 | 40 | 187 | 266 | 41 | 307 | ..... | 120 |
| Juniors | 361 | 88 | 449 | 467 | 101 | 568 | ..... | 119 |
| Sophomores† ..... | ..... | ..... | ..... | 76 | ..... | 76 | ..... | 76 |
| Freshmen† ..... | ..... | ..... | ..... | 37 | ..... | 37 | ..... | 37 |
| Unclassed | 17 | 2 | 19 | 23 | 2 | 25 | ..... | 6 |
| Totals | 525 | 130 | 655 | 869 | 144 | 1,013 | ..... | 358 |
| GRADUATE (including Mayo)..... | 1,440 | 559 | 1,999 | 1,562 | 582 | 2,144 | ..... | 145 |
| Total academic year..... | 10,830 | 6,365 | 17,195 | 11,464 | 6,429 | 17,893 | ..... | 698 |
| Less duplicates | 564 | 354 | 918 | 838 | 421 | 1,259 | ..... | 341 |
| Net total academic year..... | 10,266 | 6,011 | 16,277 | 10,626 | 6,008 | 16,634 | ..... | 357 |
| SUMMER SESSION: | | | | | | | | |
| First term | 1,954 | 2,902 | 4,856 | 2,152 | 2,784 | 4,936 | ..... | 80 |
| Second term | 955 | 1,135 | 2,090 | 1,159 | 1,008 | 2,167 | ..... | 77 |
| Totals | 2,909 | 4,037 | 6,946 | 3,311 | 3,792 | 7,103 | ..... | 157 |
| Less duplicates | 669 | 842 | 1,511 | 675 | 757 | 1,432 | ..... | 79 |
| Total summer enrolment..... | 2,240 | 3,195 | 5,435 | 2,636 | 3,035 | 5,671 | ..... | 236 |
| Mayo Foundation (graduate) | 241 | 11 | 252 | 271 | 10 | 281 | ..... | 29 |
| Net total summer enrolment..... | 2,481 | 3,206 | 5,687 | 2,907 | 3,045 | 5,952 | ..... | 265 |
| Grand total (collegiate)..... | 12,747 | 9,217 | 21,964 | 13,533 | 9,053 | 22,586 | ..... | 622 |
| Less duplicates | 1,169 | 771 | 1,940 | 1,182 | 943 | 2,125 | ..... | 185 |
| Net grand total (collegiate)..... | 11,578 | 8,446 | 20,024 | 12,351 | 8,110 | 20,461 | ..... | 437 |

† Students registered in Engineering-Business.

TABLE IIA. COLLEGIATE ENROLMENT BY QUARTERS, 1936-37

| COLLEGE OR SCHOOL | FIRST SUMMER SESSION, 1936 | | | SECOND SUMMER SESSION, 1936 | | | FALL | | | WINTER | | | SPRING | | | TOTAL INDIVIDUAL REGISTRATION* | | |
|--|-------------------------------|-------|-------|--------------------------------|-------|-------|-------|-------|--------|--------|-------|--------|--------|-------|--------|--------------------------------------|-------|--------|
| | M | W | T | M | W | T | M | W | T | M | W | T | M | W | T | M | W | T |
| | General College | 11 | 7 | 18 | 1 | 3 | 4 | 485 | 269 | 754 | 445 | 274 | 719 | 378 | 265 | 643 | 584 | 368 | 952 |
| University College | 5 | 6 | 11 | 4 | 3 | 7 | 24 | 32 | 56 | 24 | 30 | 54 | 33 | 29 | 62 | 37 | 40 | 77 |
| Science, Literature, and the Arts | 294 | 423 | 717 | 153 | 124 | 277 | 2,747 | 2,255 | 5,002 | 2,676 | 2,093 | 4,769 | 2,411 | 1,914 | 4,325 | 3,354 | 2,885 | 6,239 |
| Institute of Technology | 120 | 3 | 123 | 98 | 2 | 100 | 1,962 | 33 | 1,995 | 1,887 | 24 | 1,911 | 1,754 | 24 | 1,778 | 2,194 | 22 | 2,216 |
| Agriculture, Forestry, and Home Economics | 118 | 64 | 182 | 15 | 8 | 23 | 916 | 539 | 1,455 | 913 | 520 | 1,433 | 803 | 497 | 1,300 | 1,049 | 644 | 1,693 |
| Law | | | | | | | 340 | 20 | 360 | 327 | 19 | 346 | 319 | 20 | 339 | 342 | 19 | 361 |
| Medicine | 261 | 11 | 272 | 232 | 10 | 242 | 579 | 28 | 607 | 595 | 27 | 622 | 587 | 28 | 615 | 684 | 34 | 718 |
| Medical Technology | | 38 | 38 | | 8 | 8 | 1 | 74 | 75 | 1 | 66 | 67 | 1 | 61 | 62 | 1 | 104 | 105 |
| Nursing | | 503 | 503 | | 495 | 495 | | 492 | 492 | | 446 | 446 | | 472 | 472 | | 934 | 934 |
| Dentistry | 80 | | 80 | 38 | 2 | 40 | 304 | 3 | 307 | 296 | 4 | 300 | 299 | 4 | 303 | 324 | 7 | 331 |
| Dental Hygiene | | 9 | 9 | | 6 | 6 | | 77 | 77 | | 66 | 66 | | 65 | 65 | | 84 | 84 |
| Pharmacy | 11 | 1 | 12 | 9 | | 9 | 139 | 25 | 164 | 132 | 26 | 158 | 130 | 26 | 156 | 157 | 24 | 181 |
| Education | 311 | 1,284 | 1,595 | 91 | 322 | 413 | 468 | 1,003 | 1,471 | 464 | 966 | 1,430 | 456 | 949 | 1,405 | 894 | 2,524 | 3,418 |
| Business | 59 | 20 | 79 | 37 | 5 | 42 | 408 | 95 | 503 | 428 | 93 | 521 | 437 | 103 | 540 | 574 | 144 | 718 |
| Graduate | 915 | 540 | 1,455 | 518 | 158 | 676 | 1,121 | 427 | 1,548 | 1,113 | 348 | 1,461 | 1,110 | 406 | 1,516 | 2,101 | 1,066 | 3,167 |
| Religious leaders | 10 | 4 | 14 | | | | | | | | | | | | | 10 | 4 | 14 |
| Totals | 2,195 | 2,913 | 5,108 | 1,196 | 1,146 | 2,342 | 9,494 | 5,372 | 14,866 | 9,301 | 5,002 | 14,303 | 8,718 | 4,863 | 13,581 | 12,305 | 8,903 | 21,208 |
| Less duplicates | 13 | 8 | 21 | 16 | 3 | 19 | 73 | 79 | 152 | 120 | 96 | 216 | 128 | 82 | 210 | 727 | 457 | 1,184 |
| Net total | 2,182 | 2,905 | 5,087 | 1,180 | 1,143 | 2,323 | 9,421 | 5,293 | 14,714 | 9,181 | 4,906 | 14,087 | 8,590 | 4,781 | 13,371 | 11,578 | 8,446 | 20,024 |

* This represents a net count of individuals with all duplicates deducted.

TABLE IIB. COLLEGIATE ENROLMENT BY QUARTERS, 1937-38

| COLLEGE OR SCHOOL | FIRST SUMMER SESSION, 1937 | | | SECOND SUMMER SESSION, 1937 | | | FALL | | | WINTER | | | SPRING | | | TOTAL INDIVIDUAL REGISTRATION* | | |
|--|-------------------------------|-------|-------|--------------------------------|-------|-------|-------|-------|--------|--------|-------|--------|--------|-------|--------|--------------------------------------|-------|--------|
| | M | W | T | M | W | T | M | W | T | M | W | T | M | W | T | M | W | T |
| | General College | 6 | 5 | 11 | 2 | 1 | 3 | 456 | 270 | 726 | 458 | 281 | 739 | 415 | 281 | 696 | 560 | 371 | 931 |
| University College | 6 | 2 | 8 | 4 | 2 | 6 | 24 | 22 | 46 | 27 | 24 | 51 | 23 | 20 | 43 | 35 | 29 | 64 |
| Science, Literature, and the Arts Institute of Technology | 330 | 471 | 801 | 182 | 151 | 333 | 2,647 | 2,161 | 4,808 | 2,603 | 2,014 | 4,617 | 2,344 | 1,834 | 4,178 | 3,298 | 2,785 | 6,083 |
| Agriculture, Forestry, and Home Economics | 201 | 16 | 217 | 123 | 3 | 126 | 2,159 | 31 | 2,190 | 2,034 | 24 | 2,058 | 1,914 | 24 | 1,938 | 2,409 | 37 | 2,446 |
| Law | 123 | 76 | 199 | 28 | 13 | 41 | 991 | 585 | 1,576 | 1,002 | 578 | 1,580 | 850 | 528 | 1,378 | 1,178 | 676 | 1,854 |
| Medicine | 2 | ..... | 2 | 2 | ..... | 2 | 312 | 25 | 337 | 309 | 24 | 333 | 303 | 24 | 327 | 318 | 25 | 343 |
| Medical Technology | 250 | 13 | 263 | 239 | 14 | 253 | 558 | 31 | 589 | 560 | 31 | 591 | 562 | 34 | 596 | 836 | 45 | 881 |
| Nursing | 1 | 27 | 28 | 1 | 12 | 13 | 1 | 72 | 73 | 1 | 61 | 62 | ..... | 46 | 46 | 2 | 92 | 94 |
| Dentistry ..... | ..... | 408 | 408 | ..... | 322 | 322 | ..... | 480 | 480 | ..... | 550 | 550 | ..... | 655 | 655 | ..... | 698 | 698 |
| Dental Hygiene | 92 | 2 | 94 | 59 | ..... | 59 | 287 | 4 | 291 | 266 | 5 | 271 | 254 | 4 | 258 | 315 | 6 | 321 |
| Pharmacy ..... | ..... | 1 | 1 | ..... | 1 | 1 | ..... | 76 | 76 | ..... | 68 | 68 | ..... | 63 | 63 | ..... | 80 | 80 |
| Education | 21 | 5 | 26 | 21 | 2 | 23 | 133 | 24 | 157 | 126 | 24 | 150 | 122 | 22 | 144 | 144 | 28 | 172 |
| Business | 289 | 1,212 | 1,501 | 81 | 273 | 354 | 514 | 1,020 | 1,534 | 521 | 996 | 1,517 | 491 | 989 | 1,480 | 941 | 2,529 | 3,470 |
| Graduate | 85 | 15 | 100 | 48 | 14 | 62 | 677 | 114 | 791 | 695 | 112 | 807 | 686 | 199 | 885 | 923 | 159 | 1,082 |
| Totals | 990 | 541 | 1,531 | 640 | 210 | 850 | 1,235 | 408 | 1,643 | 1,259 | 414 | 1,673 | 1,194 | 394 | 1,588 | 2,410 | 1,109 | 3,519 |
| Less duplicates | 2,396 | 2,794 | 5,190 | 1,430 | 1,018 | 2,448 | 9,994 | 5,323 | 15,317 | 9,861 | 5,206 | 15,067 | 9,158 | 5,117 | 14,275 | 13,369 | 8,669 | 22,038 |
| Net total | 16 | 12 | 28 | 10 | 12 | 22 | 280 | 74 | 354 | 315 | 130 | 445 | 252 | 107 | 359 | 1,018 | 559 | 1,577 |
| Net total | 2,380 | 2,782 | 5,162 | 1,420 | 1,006 | 2,426 | 9,714 | 5,249 | 14,963 | 9,546 | 5,076 | 14,622 | 8,906 | 5,010 | 13,916 | 12,351 | 8,110 | 20,461 |

* This represents a net count of individuals with all duplicates deducted.

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TABLE III. SUBCOLLEGIATE STUDENTS, 1936-38

| SCHOOL OR COURSE | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|---|--------------|-------|-------|--------------|-------|-------|-------|-------|
| | Men | Women | Total | Men | Women | Total | | |
| CENTRAL SCHOOL OF AGRICULTURE: | | | | | | | | |
| Three-year course: | | | | | | | | |
| Seniors | 104 | 50 | 154 | 113 | 44 | 157 | 3 | ..... |
| Juniors | 83 | 33 | 116 | 88 | 35 | 123 | 7 | ..... |
| Freshmen | 106 | 31 | 137 | 90 | 45 | 135 | ..... | 2 |
| Unclassed | 92 | 32 | 124 | 67 | 16 | 83 | ..... | 41 |
| Totals | 385 | 146 | 531 | 358 | 140 | 498 | ..... | 33 |
| Intermediate | 17 | 8 | 25 | 22 | 15 | 37 | 12 | ..... |
| Total school registration | 402 | 154 | 556 | 380 | 155 | 535 | ..... | 21 |
| NORTHWEST SCHOOL OF AGRICULTURE: | | | | | | | | |
| Three-year course: | | | | | | | | |
| Seniors | 47 | 30 | 77 | 80 | 32 | 112 | 35 | ..... |
| Juniors | 84 | 32 | 116 | 75 | 45 | 120 | 4 | ..... |
| Freshmen | 85 | 51 | 136 | 88 | 52 | 140 | 4 | ..... |
| Unclassed | 12 | 14 | 26 | 13 | 36 | 49 | 23 | ..... |
| Totals | 228 | 127 | 355 | 256 | 165 | 421 | 66 | ..... |
| Intermediate | 28 | 18 | 46 | 24 | 20 | 44 | ..... | 2 |
| Total school registration | 256 | 145 | 401 | 280 | 185 | 465 | 64 | ..... |
| WEST CENTRAL SCHOOL OF AGRICULTURE: | | | | | | | | |
| Three-year course: | | | | | | | | |
| Seniors | 58 | 33 | 91 | 45 | 27 | 72 | ..... | 19 |
| Juniors | 60 | 32 | 92 | 68 | 18 | 86 | ..... | 6 |
| Freshmen | 88 | 26 | 114 | 87 | 20 | 107 | ..... | 7 |
| Unclassed | 32 | 31 | 63 | 32 | 32 | 64 | 1 | ..... |
| Totals | 238 | 122 | 360 | 232 | 97 | 329 | ..... | 31 |
| Intermediate | 11 | 6 | 17 | 16 | 11 | 27 | 10 | ..... |
| Total school registration | 249 | 128 | 377 | 248 | 108 | 356 | ..... | 21 |
| NORTH CENTRAL SCHOOL OF AGRICULTURE: | | | | | | | | |
| Three-year course: | | | | | | | | |
| Seniors | 18 | ..... | 18 | 22 | ..... | 22 | 4 | ..... |
| Juniors | 18 | ..... | 18 | 16 | ..... | 16 | ..... | 2 |
| Freshmen | 31 | ..... | 31 | 17 | ..... | 17 | ..... | 14 |
| Unclassed | 8 | ..... | 8 | 10 | ..... | 10 | 2 | ..... |
| Totals | 75 | ..... | 75 | 65 | ..... | 65 | ..... | 10 |
| Intermediate | 4 | ..... | 4 | 5 | ..... | 5 | 1 | ..... |
| Total school registration | 79 | ..... | 79 | 70 | ..... | 70 | ..... | 9 |
| UNIVERSITY HIGH SCHOOL | 192 | 201 | 393 | 188 | 197 | 385 | ..... | 8 |
| NURSERY SCHOOL AND KINDERGARTEN | 36 | 34 | 70 | 32 | 39 | 71 | 1 | ..... |
| Net total schools | 1,214 | 662 | 1,876 | 1,198 | 684 | 1,882 | 6 | ..... |

TABLE III—Continued

| SCHOOL OR COURSE | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|--|--------------|-------|-------|--------------|-------|-------|------|------|
| | Men | Women | Total | Men | Women | Total | | |
| SHORT COURSES: | | | | | | | | |
| Creamery Operators | 40 | | 40 | 46 | 1 | 47 | 7 | |
| Advanced Creamery Operators | | | | 51 | | 51 | 51 | |
| Annual Women's Camp (Crookston) | | 128 | 128 | | 121 | 121 | | 7 |
| Four-H Club (Crookston) | 294 | 429 | 723 | 458 | 596 | 1,054 | 331 | |
| Four-H Club (Grand Rapids) | 91 | 155 | 246 | 103 | 155 | 258 | 12 | |
| Four-H Club (Morris) | 567 | 677 | 1,244 | 207 | 295 | 502 | | 742 |
| Greenkeepers | 57 | 1 | 58 | 55 | | 55 | | 3 |
| Ice Cream Manufacturers | 41 | 5 | 46 | 24 | 4 | 28 | | 18 |
| Scout Masters (Crookston) | 60 | | 60 | 42 | | 42 | | 18 |
| Swimming (Crookston) | | | | | 13 | 13 | | 13 |
| Homemakers' Week (Morris) | | | | | 171 | 171 | 171 | |
| Vegetable Growers | 22 | 4 | 26 | 10 | 3 | 13 | | 13 |
| Itasca Park Leaders Camp | 23 | 77 | 100 | 29 | 93 | 122 | 22 | |
| Boy Scout Swimming | | | | 37 | | 37 | 37 | |
| Rural Dramatics | | | | 8 | 23 | 31 | 31 | |
| Farm Women's Week (Grand Rapids) | | | | | 26 | 26 | 26 | |
| Grand total short courses | 1,195 | 1,476 | 2,671 | 1,070 | 1,501 | 2,571 | | 100 |
| Less duplicates | 50 | 86 | 136 | 10 | 10 | 20 | | 116 |
| Net total short courses | 1,145 | 1,390 | 2,535 | 1,060 | 1,491 | 2,551 | 16 | |
| Grand total schools and short courses | 2,359 | 2,052 | 4,411 | 2,258 | 2,175 | 4,433 | 22 | |
| Less duplicates | 33 | 19 | 52 | 21 | 18 | 39 | | 13 |
| Net total schools and short courses | 2,326 | 2,033 | 4,359 | 2,237 | 2,157 | 4,394 | 35 | |

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TABLE IVA. EXTENSION STUDENTS, 1936-38

| COURSE | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|---|--------------|-------|--------|--------------|-------|--------|-------|-------|
| | Men | Women | Total | Men | Women | Total | | |
| GENERAL EXTENSION | 4,068 | 3,870 | 7,938 | 4,654 | 4,462 | 9,116 | 1,178 | ..... |
| EXTENSION SHORT COURSES: | | | | | | | | |
| Dental short courses in: | | | | | | | | |
| Orthodontia | 19 | ..... | 19 | 16 | ..... | 16 | ..... | 3 |
| Dentistry short course and Home Coming lecture | 160 | ..... | 160 | 102 | ..... | 102 | ..... | 58 |
| Dentistry short course: | | | | | | | | |
| Post convention dentistry | 42 | ..... | 42 | 86 | ..... | 86 | 44 | ..... |
| Diesel engines | 49 | ..... | 49 | 14 | ..... | 14 | ..... | 35 |
| Embalmng | 85 | 3 | 88 | 75 | 1 | 76 | ..... | 12 |
| Income tax problems | 21 | 3 | 24 | ..... | ..... | ..... | ..... | 24 |
| Janitors and engineers | 34 | ..... | 34 | 76 | 1 | 77 | 43 | ..... |
| Camp Leadership Training | | | | | | | | |
| Course ..... | ..... | ..... | ..... | 4 | 23 | 27 | 27 | ..... |
| High School Band short course ..... | ..... | ..... | ..... | 49 | 43 | 92 | 92 | ..... |
| Structural design ..... | ..... | ..... | ..... | 31 | ..... | 31 | 31 | ..... |
| Athletic Coaching School | 74 | ..... | 74 | 97 | ..... | 97 | 23 | ..... |
| Grand total short courses | 484 | 6 | 490 | 550 | 68 | 618 | 128 | ..... |
| Less duplicates ..... | ..... | ..... | ..... | 6 | ..... | 6 | 6 | ..... |
| Net total short courses | 484 | 6 | 490 | 544 | 68 | 612 | 122 | ..... |
| CORRESPONDENCE STUDY | 1,136 | 1,583 | 2,719 | 1,199 | 1,750 | 2,949 | 230 | ..... |
| Grand total extension | 5,688 | 5,459 | 11,147 | 6,397 | 6,280 | 12,677 | 1,530 | ..... |
| Less duplicates | 64 | 89 | 153 | 77 | 93 | 170 | 17 | ..... |
| Net total extension | 5,624 | 5,370 | 10,994 | 6,320 | 6,187 | 12,507 | 1,513 | ..... |

TABLE IVB. CENTER FOR CONTINUATION STUDY, 1936-38

| INSTITUTES | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | Loss |
|--|--------------|----|-----|--------------|-----|-----|------|-------|
| | M | W | T | M | W | T | | |
| Institute of Adult Education..... | 49 | 67 | 116 | 100 | 110 | 210 | 94 | ..... |
| Art Seminar | | 9 | 9 | | | | | 9 |
| Seminar on Building Democracy..... | | | | | 26 | 26 | 26 | ..... |
| Institute on Cereal Chemistry..... | | | | 53 | 4 | 57 | 57 | ..... |
| Institute on the Civil and Legal Status of Women | | 21 | 21 | | | | | 21 |
| Institute for Co-operative Man- agement | 80 | 3 | 83 | | | | | 83 |
| Conference for Co-ordinators..... | | | | 13 | 2 | 15 | 15 | ..... |
| Institute for Co-ordinators..... | | | | 19 | 1 | 20 | 20 | ..... |
| Institute on Curriculum Re- construction in State and Community | | | | 37 | 27 | 64 | 64 | ..... |
| Institute on General Education..... | | | | 16 | 2 | 18 | 18 | ..... |
| Conference on Government..... | | | | | 42 | 42 | 42 | ..... |
| Institute on Guidance..... | 36 | 31 | 67 | | | | | 67 |
| Institute for Hospital Admin- istrators | 20 | 36 | 56 | 31 | 44 | 75 | 19 | ..... |
| Institute on International Re- lations | 1 | 6 | 7 | | | | | 7 |
| POSTGRADUATE MEDICAL | | | | | | | | |
| SCHOOL: | | | | | | | | |
| Dermatology and Syphilology..... | | | | 23 | | 23 | 23 | ..... |
| Diseases of the Heart..... | | | | 38 | 1 | 39 | 39 | ..... |
| Endocrinology | | | | 31 | 1 | 32 | 32 | ..... |
| Internal Medicine | 28 | | 28 | | | | | 28 |
| Medical Diagnosis and Treatment | | | | 40 | | 40 | 40 | ..... |
| Obstetrics and Gynecology..... | 15 | 1 | 16 | | | | | 16 |
| Ophthalmology and Oto- laryngology | | | | 44 | | 44 | 44 | ..... |
| Pediatrics | 10 | | 10 | | | | | 10 |
| Proctology | | | | 18 | | 18 | 18 | ..... |
| Roentgenologic Diagnosis | 29 | 1 | 30 | 49 | 1 | 50 | 20 | ..... |
| Surgical Diagnosis and Treatment | | | | 39 | | 39 | 39 | ..... |
| Traumatic Surgery | 13 | | 13 | 38 | | 38 | 25 | ..... |
| Ministerial Seminar | | | | 15 | 2 | 17 | 17 | ..... |
| Minnesota Bankers' Conference..... | | | | 242 | 6 | 248 | 248 | ..... |
| Institute on Nursery School: Teachers and Parent Educa- tion Leaders | 1 | 64 | 65 | | 73 | 73 | 8 | ..... |
| Institute for Parent-Teacher Association Leaders | | 54 | 54 | | | | | 54 |
| Institute on Personnel Pro- cedures | | | | 34 | 66 | 100 | 100 | ..... |
| Pharmaceutical Institute | 36 | 12 | 48 | 50 | 11 | 61 | 13 | ..... |
| Photographic Institute | 50 | 11 | 61 | 29 | 5 | 34 | | 27 |
| Play Production | | | | 1 | 27 | 28 | 28 | ..... |
| Police School | 57 | | 57 | 56 | | 56 | | 1 |
| Institute for Probation and Parole Officers | 32 | 14 | 46 | 32 | 13 | 45 | | 1 |
| Institute for Regional Family Social Workers West of the Mississippi | | | | 2 | 31 | 33 | 33 | |
| Regional Institute for Librarians | | | | 3 | 128 | 131 | 131 | |

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TABLE IVB.—Continued

| INSTITUTES | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|---|--------------|-----|-----|--------------|-----|-------|------|------|
| | M | W | T | M | W | T | | |
| Institute in Safety Education..... | | | | 22 | 9 | 31 | 31 | |
| Institute for Scandinavian Studies | 5 | 21 | 26 | | | | | 26 |
| Sewer Operators' Institute..... | | | | 24 | | 24 | 24 | |
| Institute for Social Welfare..... | 9 | 40 | 49 | | 53 | 53 | 4 | |
| ADMINISTRATION AND SUPERVISION: | | | | | | | | |
| Study Institute in Secondary Education | 5 | 7 | 12 | | | | | 12 |
| Institute on Structural Engineering | 28 | | 28 | | | | | 28 |
| Institute in Visual Education and Conference on Classroom Use of Radio..... | | | | 60 | 21 | 81 | 81 | |
| Water Works School..... | 53 | | 53 | 33 | | 33 | | 20 |
| Water Works and Sewer Operators' School | | | | 17 | | 17 | 17 | |
| Institute for Writer's Craft..... | | | | 4 | 22 | 26 | 26 | |
| Grand total institutes..... | 557 | 398 | 955 | 1,213 | 728 | 1,941 | 986 | |
| Less duplicates | 28 | 1 | 29 | 78 | 2 | 80 | 51 | |
| Net total | 529 | 397 | 926 | 1,135 | 726 | 1,861 | 935 | |

TABLE V. SUMMARY, 1936-38

| DIVISION | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | LOSS |
|-------------------------------------|--------------|--------|--------|--------------|--------|--------|-------|------|
| | Men | Women | Total | Men | Women | Total | | |
| Collegiate students | 11,578 | 8,446 | 20,024 | 12,351 | 8,110 | 20,461 | 437 | |
| Subcollegiate students | 2,326 | 2,033 | 4,359 | 2,237 | 2,157 | 4,394 | 35 | |
| Totals | 13,904 | 10,479 | 24,383 | 14,588 | 10,267 | 24,855 | 472 | |
| Less duplicates | 15 | 9 | 24 | 11 | 8 | 19 | | 5 |
| Net totals | 13,889 | 10,470 | 24,359 | 14,577 | 10,259 | 24,836 | 477 | |
| Extension students | 5,624 | 5,370 | 10,994 | 6,320 | 6,187 | 12,507 | 1,513 | |
| Center for Continuation Study | 529 | 397 | 926 | 1,135 | 726 | 1,861 | 935 | |
| Grand totals | 20,042 | 16,237 | 36,279 | 22,032 | 17,172 | 39,204 | 2,925 | |
| Less duplicates | 781 | 1,052 | 1,833 | 753 | 1,091 | 1,844 | 11 | |
| Net grand totals..... | 19,261 | 15,185 | 34,446 | 21,279 | 16,081 | 37,360 | 2,914 | |

TABLE VI. COMPARATIVE REGISTRATION FIGURES, 1936-38

| COLLEGE OR SCHOOL | YEAR 1936-37 | | | YEAR 1937-38 | | | GAIN | | Loss | | |
|--|--------------|--------|--------|--------------|--------|--------|-------|-------|-------|-------|-------|
| | M | W | T | M | W | T | M | W | M | W | |
| General College | 575 | 363 | 938 | 558 | 366 | 924 | ..... | 3 | 17 | ..... | ..... |
| University College | 32 | 37 | 69 | 30 | 26 | 56 | ..... | ..... | 2 | 11 | ..... |
| Science, Literature, and the Arts | 3,120 | 2,479 | 5,599 | 3,031 | 2,381 | 5,412 | ..... | ..... | 89 | 98 | ..... |
| Institute of Technology..... | 2,105 | 21 | 2,126 | 2,283 | 29 | 2,312 | 178 | 8 | ..... | ..... | ..... |
| Agriculture (including schools of agriculture and short courses) | 3,149 | 2,433 | 5,582 | 3,180 | 2,592 | 5,772 | 31 | 159 | ..... | ..... | ..... |
| Law | 342 | 19 | 361 | 316 | 25 | 341 | ..... | 6 | 26 | ..... | ..... |
| Medicine (including Nursing and Medical Technology) | 642 | 775 | 1,417 | 609 | 808 | 1,417 | ..... | 33 | 33 | ..... | ..... |
| Dentistry (including Dental Hygiene) | 311 | 82 | 393 | 292 | 84 | 376 | ..... | 2 | 19 | ..... | ..... |
| Pharmacy | 151 | 23 | 174 | 141 | 26 | 167 | ..... | 3 | 10 | ..... | ..... |
| Education (including University High School) | 764 | 1,477 | 2,241 | 830 | 1,523 | 2,353 | 66 | 46 | ..... | ..... | ..... |
| Business Administration | 525 | 130 | 655 | 869 | 144 | 1,013 | 344 | 14 | ..... | ..... | ..... |
| Graduate | 1,440 | 559 | 1,999 | 1,562 | 582 | 2,144 | 122 | 23 | ..... | ..... | ..... |
| Summer Session (net)..... | 2,481 | 3,206 | 5,687 | 2,907 | 3,045 | 5,952 | 426 | ..... | ..... | 161 | ..... |
| Totals | 15,637 | 11,604 | 27,241 | 16,608 | 11,631 | 28,239 | 971 | 27 | ..... | ..... | ..... |
| Less duplicates | 1,748 | 1,134 | 2,882 | 2,031 | 1,372 | 3,403 | 283 | 238 | ..... | ..... | ..... |
| Net totals | 13,889 | 10,470 | 24,359 | 14,577 | 10,259 | 24,836 | 688 | ..... | ..... | 211 | ..... |
| Extension: | | | | | | | | | | | |
| General Extension | 4,068 | 3,870 | 7,938 | 4,654 | 4,462 | 9,116 | 586 | 592 | ..... | ..... | ..... |
| Short courses | 484 | 6 | 490 | 544 | 68 | 612 | 60 | 62 | ..... | ..... | ..... |
| Correspondence study | 1,136 | 1,583 | 2,719 | 1,199 | 1,750 | 2,949 | 63 | 167 | ..... | ..... | ..... |
| Totals | 5,688 | 5,459 | 11,147 | 6,397 | 6,280 | 12,677 | 709 | 821 | ..... | ..... | ..... |
| Less duplicates | 64 | 89 | 153 | 77 | 93 | 170 | 13 | 4 | ..... | ..... | ..... |
| Net totals | 5,624 | 5,370 | 10,994 | 6,320 | 6,187 | 12,507 | 696 | 817 | ..... | ..... | ..... |
| Center for Continuation Study | 529 | 397 | 926 | 1,135 | 726 | 1,861 | 606 | 329 | ..... | ..... | ..... |
| Summary: | | | | | | | | | | | |
| Totals, resident students | 13,889 | 10,470 | 24,359 | 14,577 | 10,259 | 24,836 | 688 | ..... | ..... | 211 | ..... |
| Totals, extension students | 5,624 | 5,370 | 10,994 | 6,320 | 6,187 | 12,507 | 696 | 817 | ..... | ..... | ..... |
| Totals, Center for Continuation Study | 529 | 397 | 926 | 1,135 | 726 | 1,861 | 606 | 329 | ..... | ..... | ..... |
| Grand totals | 20,042 | 16,237 | 36,279 | 22,032 | 17,172 | 39,204 | 1,990 | 935 | ..... | ..... | ..... |
| Less duplicates | 781 | 1,052 | 1,833 | 753 | 1,091 | 1,844 | ..... | 39 | 28 | ..... | ..... |
| Net grand totals | 19,261 | 15,185 | 34,446 | 21,279 | 16,081 | 37,360 | 2,018 | 896 | ..... | ..... | ..... |

TABLE VIII. DEGREES CONFERRED, 1936-38

| COLLEGE AND DEGREE | YEAR 1936-37 | | | YEAR 1937-38 | | |
|---|--------------|-------|-------|--------------|-------|-------|
| | Men | Women | Total | Men | Women | Total |
| SCIENCE, LITERATURE, AND THE ARTS: | | | | | | |
| B.A. <i>summa cum laude</i> | 4 | 1 | 5 | 4 | 3 | 7 |
| B.A. <i>magna cum laude</i> | 13 | 9 | 22 | 14 | 11 | 25 |
| B.A. <i>cum laude</i> | 26 | 20 | 46 | 24 | 15 | 39 |
| B.S. <i>summa cum laude</i> ..... | ..... | 1 | 1 | ..... | ..... | ..... |
| B.S. <i>magna cum laude</i> ..... | ..... | 3 | 3 | 1 | 1 | 2 |
| B.S. <i>cum laude</i> ..... | ..... | 9 | 9 | 4 | 8 | 12 |
| B.A. | 115 | 70 | 185 | 148 | 92 | 240 |
| B.S. | 10 | 67 | 77 | 11 | 73 | 84 |
| INSTITUTE OF TECHNOLOGY: | | | | | | |
| Bachelor of aeronautical engineering with high distinction | 1 | ..... | 1 | 1 | ..... | 1 |
| Bachelor of aeronautical engineering with distinction | 1 | ..... | 1 | 1 | ..... | 1 |
| Bachelor of aeronautical engineering | 28 | ..... | 28 | 35 | ..... | 35 |
| Bachelor of agricultural engineering | 2 | ..... | 2 | 3 | ..... | 3 |
| Bachelor of architectural engineering | 3 | ..... | 3 | ..... | ..... | ..... |
| Bachelor of civil engineering with high distinction | 1 | ..... | 1 | ..... | ..... | ..... |
| Bachelor of civil engineering with dis- tinction | 3 | ..... | 3 | 3 | ..... | 3 |
| Bachelor of civil engineering | 30 | ..... | 30 | 23 | ..... | 23 |
| Bachelor of electrical engineering with high distinction | 1 | ..... | 1 | 3 | ..... | 3 |
| Bachelor of electrical engineering with distinction | 4 | ..... | 4 | 4 | ..... | 4 |
| Bachelor of electrical engineering | 47 | ..... | 47 | 42 | ..... | 42 |
| Bachelor of mechanical engineering with high distinction ..... | ..... | ..... | ..... | 3 | ..... | 3 |
| Bachelor of mechanical engineering with distinction | 1 | ..... | 1 | 2 | ..... | 2 |
| Bachelor of mechanical engineering | 36 | ..... | 36 | 41 | ..... | 41 |
| Bachelor of architecture with distinc- tion | 1 | ..... | 1 | ..... | ..... | ..... |
| Bachelor of architecture | 12 | ..... | 12 | 10 | ..... | 10 |
| Bachelor of interior architecture ..... | ..... | 3 | 3 | 2 | 2 | 4 |
| Bachelor of chemistry with high dis- tinction | 2 | ..... | 2 | 3 | ..... | 3 |
| Bachelor of chemistry with distinction | 3 | ..... | 3 | 5 | ..... | 5 |
| Bachelor of chemistry | 15 | ..... | 15 | 11 | 2 | 13 |
| Bachelor of chemical engineering with high distinction | 3 | ..... | 3 | 3 | ..... | 3 |
| Bachelor of chemical engineering with distinction | 3 | ..... | 3 | 3 | ..... | 3 |
| Bachelor of chemical engineering | 33 | ..... | 33 | 53 | ..... | 53 |
| Engineer of mines | 9 | ..... | 9 | 12 | ..... | 12 |
| Engineer of mines in geology | 5 | ..... | 5 | 7 | ..... | 7 |
| Engineer of mines in petroleum | 3 | ..... | 3 | 2 | ..... | 2 |
| Metallurgical engineer | 8 | ..... | 8 | 7 | ..... | 7 |
| AGRICULTURE: | | | | | | |
| B.S. with high distinction (agricul- ture) ..... | ..... | ..... | ..... | 1 | 1 | 2 |
| B.S. with distinction (agriculture) | 3 | ..... | 3 | 4 | ..... | 4 |
| B.S. (agriculture) | 28 | ..... | 28 | 25 | ..... | 25 |
| B.S. with high distinction (agricultural science) ..... | ..... | ..... | ..... | 1 | ..... | 1 |

TABLE VIIA.—Continued

| COLLEGE AND DEGREE | YEAR 1936-37 | | | YEAR 1937-38 | | |
|--|--------------|-------|-------|--------------|-------|-------|
| | Men | Women | Total | Men | Women | Total |
| B.S. with distinction (agricultural science) | 2 | ..... | 2 | 2 | ..... | 2 |
| B.S. (agricultural science) | 17 | ..... | 17 | 6 | ..... | 6 |
| B.S. with high distinction (forestry) | 1 | ..... | 1 | 4 | ..... | 4 |
| B.S. with distinction (forestry)..... | 5 | ..... | 5 | 8 | ..... | 8 |
| B.S. (forestry) | 47 | ..... | 47 | 76 | ..... | 76 |
| B.S. with high distinction (home economics) ..... | ..... | ..... | ..... | ..... | 2 | 2 |
| B.S. with distinction (home economics) ..... | ..... | 4 | 4 | ..... | 4 | 4 |
| B.S. (home economics) ..... | ..... | 46 | 46 | ..... | 46 | 46 |
| AGRICULTURE AND EDUCATION: | | | | | | |
| B.S. with high distinction (agricultural education) ..... | ..... | ..... | ..... | 1 | ..... | 1 |
| B.S. with distinction (agricultural education) | 1 | ..... | 1 | 2 | ..... | 2 |
| B.S. (agricultural education) | 10 | ..... | 10 | 21 | ..... | 21 |
| B.S. with distinction (home economics) ..... | ..... | ..... | ..... | ..... | 2 | 2 |
| R.S. (home economics) ..... | ..... | 18 | 18 | ..... | 15 | 15 |
| LAW: | | | | | | |
| LL.B. | 59 | 2 | 61 | 72 | 3 | 75 |
| B.S. in law | 33 | 1 | 34 | 45 | 3 | 48 |
| MEDICINE: | | | | | | |
| M.D. | 121 | 4 | 125 | 114 | 3 | 117 |
| M.B. with distinction ..... | ..... | ..... | ..... | 2 | ..... | 2 |
| M.B. | 118 | 3 | 121 | 114 | 5 | 119 |
| B.S. <i>cum laude</i> ..... | ..... | 4 | 4 | ..... | 8 | 8 |
| B.S. with high distinction ..... | ..... | ..... | ..... | 1 | ..... | 1 |
| B.S. with distinction | 23 | 1 | 24 | 18 | 1 | 19 |
| B.S. | 122 | 32 | 154 | 76 | 27 | 103 |
| Graduate in nursing ..... | ..... | 53 | 53 | ..... | 77 | 77 |
| DENTISTRY: | | | | | | |
| D.D.S. | 86 | 1 | 87 | 100 | ..... | 100 |
| Graduate dental hygienist ..... | ..... | 34 | 34 | ..... | 27 | 27 |
| PHARMACY: | | | | | | |
| B.S. in pharmacy | 35 | 8 | 43 | 36 | 4 | 40 |
| EDUCATION: | | | | | | |
| B.S. with high distinction | 4 | 11 | 15 | 2 | 14 | 16 |
| B.S. with distinction | 6 | 43 | 49 | 13 | 53 | 66 |
| B.S. | 84 | 259 | 343 | 72 | 301 | 373 |
| BUSINESS ADMINISTRATION: | | | | | | |
| Bachelor of business administration with distinction | 3 | 3 | 6 | 8 | 2 | 10 |
| Bachelor of business administration | 119 | 34 | 153 | 169 | 25 | 194 |
| UNIVERSITY COLLEGE: | | | | | | |
| B.A. <i>magna cum laude</i> ..... | ..... | 1 | 1 | 1 | ..... | 1 |
| B.A. <i>cum laude</i> | 2 | 1 | 3 | 2 | 1 | 3 |
| B.A. | 7 | 10 | 17 | 4 | 5 | 9 |
| B.S. <i>cum laude</i> | 1 | 2 | 3 | 1 | ..... | 1 |
| B.S. | 2 | 3 | 5 | 4 | 1 | 5 |
| GENERAL COLLEGE: | | | | | | |
| A.A. | 37 | 37 | 74 | 32 | 37 | 69 |
| GRADUATE: | | | | | | |
| M.A. | 113 | 70 | 183 | 113 | 70 | 183 |
| M.S. | 56 | 23 | 79 | 71 | 17 | 88 |
| Master of business administration ..... | ..... | ..... | ..... | 1 | ..... | 1 |

TABLE VIIA.—Continued

| COLLEGE AND DEGREE | YEAR 1936-37 | | | YEAR 1937-38 | | |
|--|--------------|-------|-------|--------------|-------|-------|
| | Men | Women | Total | Men | Women | Total |
| M.S. in aeronautical engineering | 2 | | 2 | 2 | | 2 |
| M.S. in chemical engineering | 1 | | 1 | 6 | | 6 |
| M.S. in civil engineering | 3 | | 3 | 2 | | 2 |
| M.S. in electrical engineering | 11 | | 11 | 4 | | 4 |
| M.S. in mechanical engineering | 2 | | 2 | 5 | | 5 |
| M.S. in psychometrics | | | | 1 | 2 | 3 |
| Civil engineer | 1 | | 1 | 1 | | 1 |
| Electrical engineer | 1 | | 1 | | | |
| Chemical engineer | 1 | | 1 | | | |
| M.S. in anesthesia | 2 | | 2 | | | |
| M.S. in dermatology and syphilology | 1 | | 1 | 3 | | 3 |
| M.S. in medicine | 4 | | 4 | 12 | | 12 |
| M.S. in neurology | | | | 2 | | 2 |
| M.S. in neurology and psychiatry | | | | 2 | | 2 |
| M.S. in obstetrics and gynecology | 1 | | 1 | | | |
| M.S. in ophthalmology | | | | 2 | | 2 |
| M.S. in otolaryngology | | | | 2 | | 2 |
| M.S. in pathology | 4 | | 4 | 2 | | 2 |
| M.S. in pediatrics | | | | 3 | | 3 |
| M.S. in proctology | 1 | | 1 | 2 | | 2 |
| M.S. in radiology | | | | 3 | | 3 |
| M.S. in surgery | 7 | | 7 | 15 | | 15 |
| M.S. in neurosurgery | | | | 4 | | 4 |
| M.S. in orthopedic surgery | | | | 1 | | 1 |
| M.S. in otolaryngology and rhinology | | | | 1 | | 1 |
| M.S. in urology | 1 | | 1 | 1 | | 1 |
| Ph.D. | 70 | 11 | 81 | 67 | 8 | 75 |
| Ph.D. in obstetrics and gynecology | 1 | | 1 | | | |
| Ph.D. in pathology | | | | 1 | | 1 |
| Ph.D. in surgery | 1 | | 1 | 2 | | 2 |
| Ph.D. in experimental surgery | | | | 1 | | 1 |
| Totals | 1,683 | 902 | 2,585 | 1,854 | 971 | 2,825 |

TABLE VIIB. CERTIFICATES CONFERRED, 1936-38

| SCHOOL OR DIVISION | YEAR 1936-37 | | | YEAR 1937-38 | | |
|---|--------------|-------|-------|--------------|-------|-------|
| | Men | Women | Total | Men | Women | Total |
| Central School of Agriculture | 68 | 37 | 105 | 57 | 23 | 80 |
| Embalming | 62 | 1 | 63 | 60 | 1 | 61 |
| Extension | 4 | 1 | 5 | 4 | 1 | 5 |
| Hospital librarianship | | | | | 10 | 10 |
| Library | | | | | 2 | 2 |
| North Central School of Agriculture | 16 | | 16 | 20 | | 20 |
| Northwest School of Agriculture | 68 | 49 | 117 | 68 | 30 | 98 |
| Public health nursing | | 36 | 36 | 3 | 24 | 27 |
| Social work | 6 | 28 | 34 | 4 | 8 | 12 |
| University High School | 34 | 38 | 72 | 34 | 38 | 72 |
| West Central School of Agriculture | 42 | 30 | 72 | 39 | 20 | 59 |
| Totals | 300 | 220 | 520 | 289 | 157 | 446 |

TABLE VIII.A. SUMMARY OF SOURCE OF ENROLMENT FROM HIGH SCHOOLS, 1936-37

| Entrants From | General Col. | Univ. Col. | S., L., and A. | Institute of Technology | Agriculture | Law | Medicine | Nursing | Dentistry | Dental Hygiene | Pharmacy | Education | Business Adm. | Total |
|------------------------------------|--------------|------------|----------------|-------------------------|-------------|-------|----------|---------|-----------|----------------|----------|-----------|---------------|-------|
| Minneapolis public schools | 161 | ..... | 702 | 229 | 95 | ..... | ..... | 5 | ..... | 7 | 4 | 57 | ..... | 1,260 |
| St. Paul public schools | 41 | ..... | 210 | 65 | 36 | ..... | ..... | ..... | ..... | 3 | 1 | 18 | ..... | 374 |
| Other Minnesota high schools | 96 | 1 | 414 | 181 | 163 | ..... | ..... | 36 | ..... | 9 | 12 | 58 | ..... | 970 |
| Minnesota private schools | 16 | ..... | 99 | 25 | 30 | ..... | ..... | 3 | ..... | 1 | 2 | 3 | ..... | 179 |
| Total from Minnesota | 314 | 1 | 1,425 | 500 | 324 | ..... | ..... | 44 | ..... | 20 | 19 | 136 | ..... | 2,783 |
| Other states | 69 | ..... | 212 | 78 | 35 | ..... | ..... | 22 | ..... | 3 | 4 | 13 | ..... | 436 |
| Foreign countries ..... | ..... | ..... | 8 | 3 | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | 12 |
| Grand totals | 383 | 1 | 1,645 | 581 | 359 | ..... | ..... | 67 | ..... | 23 | 23 | 149 | ..... | 3,231 |
| Entered by examination | 4 | ..... | 54 | 7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | 66 |
| Unclassed | 2 | ..... | 40 | 4 | ..... | ..... | ..... | 3 | ..... | ..... | ..... | 37 | 3 | 89 |

TABLE VIII.B. SUMMARY OF SOURCE OF ENROLMENT FROM HIGH SCHOOLS, 1937-38

| Entrants From | General Col. | Univ. Col. | S., L., and A. | Institute of Technology | Agriculture | Law | Medicine | Nursing | Dentistry | Dental Hygiene | Pharmacy | Education | Business Adm. | Total |
|------------------------------------|--------------|------------|----------------|-------------------------|-------------|-------|----------|---------|-----------|----------------|----------|-----------|---------------|-------|
| Minneapolis public schools | 194 | ..... | 672 | 217 | 92 | ..... | ..... | 4 | ..... | 7 | 9 | 51 | ..... | 1,246 |
| St. Paul public schools | 66 | ..... | 204 | 60 | 32 | ..... | ..... | 3 | ..... | 2 | 3 | 12 | ..... | 382 |
| Other Minnesota high schools | 116 | 1 | 386 | 206 | 171 | ..... | ..... | 22 | ..... | 8 | 7 | 47 | ..... | 964 |
| Minnesota private schools | 29 | ..... | 83 | 21 | 38 | ..... | ..... | 2 | ..... | 1 | 1 | 6 | ..... | 181 |
| Total from Minnesota | 405 | 1 | 1,345 | 504 | 333 | ..... | ..... | 31 | ..... | 18 | 20 | 116 | ..... | 2,773 |
| Other states | 40 | ..... | 151 | 58 | 28 | ..... | ..... | 12 | ..... | 4 | 2 | 12 | ..... | 307 |
| Foreign countries ..... | ..... | ..... | 2 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | 5 |
| Grand totals | 445 | 1 | 1,498 | 564 | 361 | ..... | ..... | 43 | ..... | 22 | 23 | 128 | ..... | 3,085 |
| Entered by examination ..... | ..... | ..... | 43 | 5 | 2 | ..... | ..... | 1 | ..... | ..... | ..... | 4 | ..... | 55 |
| Unclassed | 5 | ..... | 77 | 3 | 23 | 1 | 2 | 3 | 1 | ..... | ..... | 70 | 3 | 188 |

TABLE IXA. SUMMARY OF STUDENTS ADMITTED WITH ADVANCED STANDING, 1936-37

| Entrants From | General Col. | Univ. Col. | S., L., and A. | Institute of Tech. | Agriculture | Law | Medicine | Medical Technology | Nursing | Dentistry | Dental Hygiene | Pharmacy | Education | Business Adm. | Total |
|-------------------------------------|--------------|------------|----------------|--------------------|-------------|-------|----------|--------------------|---------|-----------|----------------|----------|-----------|---------------|-------|
| Colleges in Minnesota | 1 | 1 | 251 | 101 | 102 | 30 | 25 | 1 | 15 | 11 | 3 | 8 | 103 | 57 | 709 |
| Colleges in other states ..... | ..... | 1 | 249 | 64 | 62 | 18 | 9 | ..... | 15 | 16 | 6 | 6 | 59 | 26 | 531 |
| Colleges in foreign countries ..... | ..... | ..... | 6 | 2 | 1 | ..... | 1 | ..... | ..... | 3 | ..... | ..... | 2 | ..... | 15 |
| Schools of nursing ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 72 | ..... | ..... | ..... | 22 | ..... | 94 |
| Grand totals | 1 | 2 | 506 | 167 | 165 | 48 | 35 | 1 | 102 | 30 | 9 | 14 | 186 | 83 | 1,349 |

TABLE IXB. SUMMARY OF STUDENTS ADMITTED WITH ADVANCED STANDING, 1937-38

| Entrants From | General Col. | Univ. Col. | S., L., and A. | Institute of Tech. | Agriculture | Law | Medicine | Medical Technology | Nursing | Dentistry | Dental Hygiene | Pharmacy | Education | Business Adm. | Total |
|-------------------------------------|--------------|------------|----------------|--------------------|-------------|-------|----------|--------------------|---------|-----------|----------------|----------|-----------|---------------|-------|
| Colleges in Minnesota ..... | ..... | 2 | 251 | 114 | 90 | 31 | 25 | 4 | 15 | 9 | 2 | 13 | 102 | 26 | 684 |
| Colleges in other states | 1 | 1 | 188 | 75 | 51 | 10 | 10 | 2 | 8 | 15 | 1 | 4 | 74 | 8 | 448 |
| Colleges in foreign countries ..... | ..... | 1 | 5 | 3 | 1 | 1 | 1 | ..... | 2 | 1 | ..... | ..... | ..... | ..... | 15 |
| Schools of nursing ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 15 | ..... | ..... | ..... | 52 | ..... | 67 |
| Grand totals | 1 | 4 | 444 | 192 | 142 | 42 | 36 | 6 | 40 | 25 | 3 | 17 | 228 | 34 | 1,214 |

TABLE XA. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF UNIVERSITY STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION), 1936-37

| Entrants From | General Col. | Univ. Col. | S., L., and A. | Institute of Tech. | Agriculture | Law | Medicine | Medical Technology | Nursing | Dentistry | Dental Hyg. | Pharmacy | Education | Business Adm. | Graduate | Duplicates | Total |
|--------------------------------|--------------|------------|----------------|--------------------|--------------|------------|------------|--------------------|------------|------------|-------------|------------|--------------|---------------|--------------|------------|---------------|
| Hennepin County | 478 | 34 | 2,397 | 841 | 480 | 140 | 199 | 33 | 322 | 54 | 32 | 53 | 614 | 222 | 557 | 316 | 6,140 |
| Ramsey County | 170 | 10 | 969 | 384 | 244 | 61 | 114 | 8 | 28 | 25 | 9 | 26 | 244 | 87 | 304 | 122 | 2,561 |
| Other Minnesota counties | 188 | 15 | 1,413 | 626 | 714 | 117 | 268 | 28 | 165 | 104 | 22 | 77 | 657 | 252 | 388 | 324 | 4,710 |
| Total | 836 | 59 | 4,779 | 1,851 | 1,438 | 318 | 581 | 69 | 515 | 183 | 63 | 156 | 1,515 | 561 | 1,249 | 762 | 13,411 |
| Other states | 100 | 9 | 787 | 254 | 171 | 42 | 86 | 17 | 142 | 98 | 14 | 18 | 326 | 90 | 620 | 147 | 2,627 |
| Foreign countries | 2 | 1 | 33 | 21 | 7 | 1 | 3 | 1 | 3 | 35 | ..... | ..... | 7 | 4 | 130 | 9 | 239 |
| Grand totals | 938 | 69 | 5,599 | 2,126 | 1,616 | 361 | 670 | 87 | 660 | 316 | 77 | 174 | 1,848 | 655 | 1,999 | 918 | 16,277 |

TABLE XB. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF UNIVERSITY STUDENTS OF COLLEGIATE GRADE
(OTHER THAN SUMMER SESSION), 1937-38

| Entrants From | General Col. | Univ. Col. | S., L., and A. | Institute of Tech. | Agriculture | Law | Medicine | Medical Technology | Nursing | Dentistry | Dental Hyg. | Pharmacy | Education | Business Adm. | Graduate | Duplicates | Total |
|--------------------------------|--------------|------------|----------------|--------------------|--------------|------------|------------|--------------------|------------|------------|-------------|------------|--------------|---------------|--------------|--------------|---------------|
| Hennepin County | 499 | 31 | 2,369 | 918 | 494 | 130 | 169 | 26 | 346 | 49 | 28 | 56 | 645 | 355 | 607 | 454 | 6,268 |
| Ramsey County | 175 | 10 | 980 | 368 | 238 | 52 | 115 | 12 | 18 | 25 | 6 | 20 | 283 | 150 | 318 | 190 | 2,580 |
| Other Minnesota counties | 185 | 11 | 1,385 | 737 | 851 | 128 | 266 | 31 | 194 | 116 | 30 | 78 | 752 | 363 | 408 | 443 | 5,092 |
| Total | 859 | 52 | 4,734 | 2,023 | 1,583 | 310 | 550 | 69 | 558 | 190 | 64 | 154 | 1,680 | 868 | 1,333 | 1,087 | 13,940 |
| Other states | 64 | 4 | 656 | 266 | 174 | 30 | 91 | 18 | 123 | 85 | 15 | 13 | 284 | 138 | 689 | 165 | 2,485 |
| Foreign countries | 1 | ..... | 22 | 23 | 6 | 1 | 2 | ..... | 6 | 21 | 1 | ..... | 4 | 7 | 122 | 7 | 209 |
| Grand totals | 924 | 56 | 5,412 | 2,312 | 1,763 | 341 | 643 | 87 | 687 | 296 | 80 | 167 | 1,968 | 1,013 | 2,144 | 1,259 | 16,634 |

Respectfully submitted,

RODNEY M. WEST, Registrar

REPORT OF THE COMPTROLLER

To the President of the University:

SIR: I have the honor to submit herewith a brief summary of the annual report of the comptroller of the University of Minnesota for the year ended June 30, 1938.

The University's complete financial report, *Report of the Comptroller*, is published separately and is available on request.

Sources of Income, July 1, 1937 to June 30, 1938

From the State

| | |
|---|-----------------|
| The legislative maintenance appropriation | \$ 3,500,000.00 |
| For the general support of the instructional, research, and administrative departments and maintenance of buildings and grounds, including the Department of Agriculture and the agricultural schools and experiment stations | |
| The 23/100 mill tax | 304,770.54 |
| The standing direct property tax for the general support of the University. | |
| The state's share of the cost of indigent patients at the University of Minnesota Hospitals | 185,000.00 |
| The special projects administered and carried on by the University for the general benefit of the people of the state | 329,165.09 |
| These special projects include Agricultural Extension, county agents, Live Stock Sanitary Board, dairy manufacturing, and research in field of maniferous ores, direct process beneficiation of low-grade ores, soils, medicine, crop breeding and testing, cast iron pavement, dairy marketing, maintenance of Psychopathic Hospital, Institute of Child Welfare, dairy products promotion, and research in use of peat as fuel. | |
| The physical plant extensions | 775,025.00 |
| School of Business Administration | 300,000.00 |
| Psychology and State Board of Health Building | 225,000.00 |
| New Forestry Building | 250,025.00 |

From the Federal Government

| | |
|--|------------|
| Instruction, research, and extension | 697,647.22 |
| \$629,816.59 of this amount was used in Agriculture including Extension, \$19,726.26 in the Institute of Technology; \$14,119.78 in Education; \$19,726.26 in the College of Science, Literature, and the Arts; \$16,327.86 in the Medical School. | |

From the Permanent University Fund

286,338.65

The principal of the fund, amounting to \$8,656,976.33 on June 30, 1938, was derived from lands set aside by the Federal Government and 10 per cent of the occupational tax on iron ore. The income is used for general university support.

From the Swamp Land Fund

82,332.83

The principal of the fund was derived from land set aside by the state of Minnesota. The University participates in the income.

From the University Itself

| | |
|---|--------------|
| The students' contribution in the form of tuition fees (net) | 1,417,209.23 |
| The counties' share of the cost of indigent patients at the University of Minnesota Hospitals | 207,429.72 |
| The University of Minnesota Hospitals receipts | 220,418.38 |
| The Dental Infirmary receipts of the School of Dentistry | 67,618.20 |
| Other miscellaneous departmental income such as sales of livestock and agricultural products | 457,490.11 |

From Self-Supporting Service Enterprises and Revolving Funds

2,060,357.66

The University operates dormitories and dining halls, cafeterias, a printing department, a laundry, a garage, a cold storage plant, and other enterprises and revolving funds, for the purpose of rendering service to the student body and of reducing the costs of general university operations.

From Trust Funds

960,807.73

The trust funds include gifts and donations for scholarships, prizes, and income from endowments for teaching, research, and care of the sick.

From Intercollegiate Athletics

410,262.26

All intercollegiate athletic receipts are credited to this fund.

Total Receipts from All Sources

\$11,961,872.62

Free balance July 1, 1937

4,172.80

\$11,966,045.42

Expenditures, July 1, 1937 to June 30, 1938

The Administration of the University

The expenses of the offices of the president, the comptroller, the registrar, the dean of student affairs, the dean of women, and other general administrative offices \$ 194,782.79

The General University

The expenses of the library, general bulletins and publications, lectures and convocations, the storehouses, truck service, the inter-campus trolley, the employment bureau, and other services of an all-university character 591,290.31

The Expenses of Instruction and Research

The expenses of college instruction and research, agricultural schools and experiment stations, the University of Minnesota Hospitals, Summer Session, Agricultural and General Extension. (General fund, \$4,821,447.46; federal funds, \$699,716.75; special state appropriations, \$336,000.04) 5,857,164.25

The Expenses of the Physical Plant

The expenses of maintaining and operating the buildings and other improvements on the land of the Main campus and the Farm campus 699,259.19

The Plant Extension Expenditures

Expenditures for buildings, lands and improvements 972,339.22
 General university fund \$172,944.42; special state appropriations \$690,560.48; university service enterprises \$11,389.82; athletic fund \$96,543.00; trust funds \$901.50.

The Self-Supporting Service Enterprises and Revolving Fund

The operating and capital expenditures for dormitories and dining halls, cafeterias, printing department, and other self-supporting enterprises and revolving funds 1,873,272.75

The Trust Fund Expenditures

Scholarships, fellowships, prizes, and trust fund expenditures for teaching and research, care of the sick, and other trust purposes 782,105.53

The Expenditures of Intercollegiate Athletics

The operating expenses of intercollegiate athletics and that part of the physical education expense paid from receipts of intercollegiate athletics 258,313.86

| | |
|---|------------------------|
| Expenditures for All Purposes | \$11,228,527.90 |
| Transfer to endowments | 36,620.75 |
| Increase in obligations and allotted balances | 672,580.30 |
| Transfer to stores reserve | 25,000.00 |
| Free balance June 30, 1938 | 3,316.47 |
| | <hr/> |
| | \$11,966,045.42 |

A Few Interesting Facts About the University

Students

| | 1933-34 | 1934-35 | 1935-36 | 1936-37 | 1937-38 |
|---------------------|---------|---------|---------|---------|---------|
| Collegiate | 15,141 | 16,425 | 18,308 | 20,024 | 20,461 |
| Noncollegiate | 3,935 | 3,029 | 4,272 | 5,285 | 6,255 |
| Extension | 7,275 | 9,029 | 9,811 | 11,073 | 12,677 |

Staff—1937-38

| | |
|---|-------|
| Administrative, teaching, and research staff* | 1,635 |
| Clerical and service staff* | 1,201 |

Colleges

| | Departments |
|--|-------------|
| College of Science, Literature, and the Arts | 25 |
| Institute of Technology | 13 |
| Department of Agriculture | 30 |
| Medical School | 15 |
| School of Dentistry | 1 |
| Law School | 1 |
| College of Pharmacy | 1 |
| College of Education | 9 |
| Graduate School | 11 |
| School of Business Administration | 1 |
| Library Instruction | 1 |
| University College | 1 |
| General College | 1 |

Land—June 30, 1938

| | Acres | Value |
|-------------------------------|----------|----------------|
| Main campus—Minneapolis | 136.98 | \$4,009,965.17 |
| Farm campus—St. Paul | 648.17 | 617,548.00 |
| Crookston | 847.89 | 141,649.72 |
| Grand Rapids | 454.60 | 34,095.00 |
| Excelsior | 229.89 | 41,271.00 |
| Morris | 823.82 | 61,138.00 |
| Waseca | 246.02 | 30,752.00 |
| Duluth | 252.74 | 41,224.00 |
| Cloquet | 2,902.09 | 60,632.00 |

Buildings—June 30, 1938

| | Major | Minor | Value |
|--------------------|-------|-------|-----------------|
| Main campus | 46 | 15 | \$17,091,519.09 |
| Farm campus | 28 | 53 | 2,477,233.11 |
| Crookston | 14 | 26 | 596,327.83 |
| Grand Rapids | 3 | 21 | 219,048.15 |
| Excelsior | 5 | 8 | 54,846.32 |
| Morris | 15 | 15 | 777,582.46 |
| Waseca | 6 | 15 | 46,237.87 |
| Duluth | 2 | 20 | 67,424.24 |
| Cloquet | 6 | 25 | 43,905.33 |
| Itasca | 2 | 19 | 21,990.00 |

* Reduced to a full-time basis.

Equipment—June 30, 1938

| | Total | Livestock | Books and Museum Collections | Other |
|------------------------------------|-----------------------|--------------------|---------------------------------|-----------------------|
| Main campus | \$6,710,771.04 | ..... | \$3,506,886.25 | \$3,203,884.79 |
| Department of Agriculture | 1,189,802.93 | \$87,824.75 | 301,975.44 | 800,002.74 |
| Research | 70,769.45 | ..... | ..... | 70,769.45 |
| Service enterprises | 682,596.03 | ..... | ..... | 682,596.03 |
| | <u>\$8,653,939.45</u> | <u>\$87,824.75</u> | <u>\$3,808,861.69</u> | <u>\$4,757,253.01</u> |

Endowment—June 30, 1938

| | Value |
|--|------------------------|
| For student aid—scholarships and prizes | \$ 375,287.42 |
| For student aid—loans | 260,868.34 |
| Educational purposes | 3,745,651.88 |
| Non-educational purposes | 2,049,476.19 |
| Endowment—subject to annuity | 425,548.33 |
| For general purposes | 8,682,001.79 |
| | <u>\$15,538,833.95</u> |
| Student Loan Funds—Cash available | 58,513.24 |
| Notes receivable | 222,399.76 |
| | <u>\$15,819,746.95</u> |
| Total | \$15,819,746.95 |

Respectfully submitted,

W. T. MIDDLEBROOK, *Comptroller*

COLLEGE REPORTS

COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

To the President of the University:

SIR: I have the honor to submit my report as dean of the College of Science, Literature, and the Arts for the biennium 1936-38.

Retirement of Dean J. B. Johnston.—In June, 1937, after thirty years of service to the University of Minnesota, Dean J. B. Johnston retired from the active direction of the affairs of the college. The ideals and purposes which gave direction and continuity to his leadership have been set forth by him in previous biennial reports and will continue for many years to come to influence and direct the progress of the college.

During the period of Dean Johnston's leadership (1914 to 1937) the college has made great and lasting growth, not merely in numbers of students, faculty, and material equipment, but more especially in its conception of the purposes and responsibilities of a liberal arts college, and of the practical ways of realizing them.

As his successor I am privileged to bear witness to the vision, intelligence, and wisdom with which Dean Johnston guided and directed this growth.

Study of the scholarship of students in the college.—During his last year of service Dean Johnston completed a study of the academic records of students in the college as correlated with the students' high school records, their economic status, and the occupational groups to which their fathers belonged. The results of this study and the conclusions to which they lead were published by Dean Johnston in a letter to the faculty dated March 1, 1937. His conclusions are:

There is an inefficient and unhealthy state of higher public education in Minnesota. There has been a great increase in the number of students. More than half of those who enter the University prove to be unable to meet the requirements for promotion and graduation. The presence of these unsuccessful students entails (a) great expense resting on the taxpayers of the state. Funds have not been increased in proportion to the growth in number of students. This results in (b) impairment of the quality of the faculty because of competition of other state and private institutions in the matter of salaries; (c) inefficient teaching because of large classes and through the occupation by incompetent students of space in classrooms and laboratories and of library facilities and laboratory apparatus, to the exclusion of competent students who wish to use them; and (d) the division of each instructor's time for counseling with students, individual help with perplexing problems, personal stimulation of interest and effort, and direction of efforts into profitable channels, to such an extent that many students fail who might be directed into channels in which they would succeed.

We have struggled with these problems for twenty years and we have now more than twice as many students with only a little larger percentage of successful students; so that the waste is at least twice as great. I speak of waste because it is well known that for most students who fail in college, the attendance is of little value to them, while for great numbers it is a positive harm because of discouragement and broken morale, to say nothing of loss of time and money.

From 1900 to 1935 the number of high school graduates in Minnesota has increased by a factor of 15. From 1920 to 1935 the proportion of high school graduates entering the University has dropped from 21.6 to 7.2 per cent. Because of the crowded conditions in the high schools and because of the relatively small fraction of high school students who go on to university work the high school instruction is becoming less and less adapted to preparation for university work and the high school standing of students a less reliable index of a student's likelihood of success in the University. This latter is all the more true since the high schools have adopted a policy of promotion based upon age, effort, and deportment rather than upon ability and accomplishment.

To meet this situation the University should expand and improve its facilities for testing students' abilities and aptitudes, and also its instruments for guidance. They should be made increasingly effective in securing admission to the University of those young people who give reasonable evidence of being able and willing to work effectively at the intellectual level of American higher education and of having the personal qualities and character necessary to render to the public welfare services commensurate with the training received.

Study of the causes for failure of students of seemingly high potential ability to do satisfactory work in the college.—During 1937-38 a study was made by Dr. John G. Darley under the direction of Assistant Dean Royal R. Shumway of the 502 freshmen who entered the college in the fall of 1937 with high school records and entrance test scores which were above the average for the entire entering class. Of this group 100 failed to maintain a "C" average during the fall quarter.

By personal interviews and with the help of university personnel agencies (Health Service, Testing Bureau, etc.) an effort was made to discover the reasons underlying the failure of these students to do satisfactory work. These general conclusions emerge:

1. In no case was there evidence of scholarly or intellectual curiosity.
2. As a group these students were affected by personal problems (emotional, financial, etc.) of greater severity than were those who did satisfactory work. This emphasizes again that which has been brought out in all previous studies: The students of potentially high ability need inspiration and personal attention and guidance fully as much as students of lower ability. Other studies have demonstrated that these are the students who profit most by counseling service.

Enrolment and teaching load of the college.—Enrolment in the college for 1935-36 and 1936-37 increased about 6.5 per cent over the average enrolment in 1933-34 and 1934-35. The teaching load of the college increased 5.5 per cent in the same period. The relation of teaching load to staff number has remained about the same but is 6 per cent above the average for the past eighteen years. It should be reduced by additions to the instructional staff.

Scholarly activity of the faculty.—During the biennium the faculty of the college has maintained its distinguished record in research and scholarship. This is evidenced by the long list of their scholarly publications, by the grants-in-aid to their researches received by them from individuals, corporations, and foundations and by the honors which have been conferred upon them in recognition of their abilities.

Immediate educational problems.—The most pressing educational problem which faces the college is the fundamental one of making more effectively available to the youth of the state the spiritual, intellectual, and physical resources of the college. The elements of this problem to which immediate attention should be given are:

1. Expansion and improvement of our facilities for testing students' aptitudes and abilities prior to entrance and early thereafter.
2. Providing effective means for counseling students and of guiding them into the courses of study, either in this college or elsewhere in the University, which are best suited to them.
3. Intelligent and well-considered modification of the courses of study or types of training offered by the college more effectively to meet the situation created by the wide spread of abilities and interests presented by our student body. Particularly is this needed in the offerings of the junior college. Especial attention should be given to the needs of the students of high ability.

Respectfully submitted,

JOHN T. TATE, *Dean*

INSTITUTE OF TECHNOLOGY

To the President of the University:

SIR: I submit the following report for the Institute of Technology from July 1, 1936 to June 30, 1938:

New objectives.—In the establishment and development of the Institute of Technology two objectives have been kept constantly in mind, both with the ultimate purpose of advancing scholarship and research and of improving instruction and adapting it to the student's needs.

The first of these objectives is co-operation with other divisions of the University. The arrangements for five-year combination courses between the School of Business Administration and the various departments of engineering have been completed for Aeronautical, Electrical, Civil, Mechanical, Chemical, Mining, and Metallurgical Engineering, and Chemistry. Through co-operation with the Department of Physics in the College of Science, Literature, and the Arts, courses and laboratory work have been initiated in geophysics which have attracted students of geology, physics, mining, petroleum engineering, and other fields. With the further co-operation of the Department of Physics a curriculum of industrial physics has been established which offers basic training in mathematics, physics, and chemistry, preparing a student for further pursuit of these subjects in graduate work or to enter industry as a technical physicist.

The second objective is the furtherance of the work of the experiment stations. The Mines Experiment Station was established several years ago with the principal object of solving the problem of the utilization of low-grade iron ore. The Engineering Experiment Station recently has been provided with two new buildings known as the Oak Street Laboratories and the new St. Anthony Falls Hydraulics Laboratory, both of which not only will contribute to the facilities for student instruction and for research and experimentation, but will stimulate the interest of staff members to take part in this work. The latter may be regarded as one of its most important functions.

Industrial relations.—During the past years the realization has been growing that there is an obligation to co-operate with industry in the solution of problems which involve the application of the principles of science and engineering, and which have a bearing upon the public and industrial welfare. Means of establishing this co-operation are now provided in the Engineering Experiment Station which is already actively engaged in several investigations and has additional facilities to accommodate others.

Placement service.—With the depression it became necessary to devote increased attention to assisting our graduates, and incidentally our alumni, to secure suitable employment. The service has proved highly useful and helpful and now begins to be indispensable. It has been conducted on a voluntary and self-supporting basis.

Enrolment.—In Tables I and II will be found the statistics of enrolment in the Institute of Technology for the past two years. Whereas the total enrolment is still increasing, the number of freshmen is showing a decided decrease in most cases. This is due largely to the number of transfer students, entering the upper years.

TABLE I. COMPARISON OF FRESHMAN AND TOTAL ENROLMENTS FOR THE BIENNIUM IN ENGINEERING, ARCHITECTURE, CHEMISTRY, AND MINES, FALL QUARTER

| Group | 1936-37 | 1937-38 |
|--|--------------|--------------|
| <i>Freshman Enrolment</i> | | |
| Engineering | 417 | 326 |
| Architecture and architectural engineering | 21 | 18 |
| Chemistry and chemical engineering | 219 | 183 |
| Mines and metallurgy | 46 | 43 |
| Total freshmen | 703 | 570 |
| <i>Total Enrolment</i> | | |
| Engineering | 1,153 | 1,278 |
| Architecture and architectural engineering | 103 | 103 |
| Chemistry and chemical engineering | 544 | 586 |
| Mines and metallurgy | 174 | 161 |
| Total enrolment | 1,974 | 2,128 |

TABLE II. COMPARISON OF ENROLMENT BY CURRICULA FOR THE BIENNIUM IN ENGINEERING, ARCHITECTURE, CHEMISTRY, AND MINES, FALL QUARTER

| Course | 1936-37 | 1937-38 |
|---|--------------|--------------|
| Aeronautical engineering | 232 | 280 |
| Agricultural engineering | 21 | 26 |
| Architectural engineering* | 1 | 0 |
| Architecture | 97 | 91 |
| Chemical engineering (including business) | 377 | 437 |
| Chemistry (including business) | 160 | 139 |
| Civil engineering | 198 | 188 |
| Electrical engineering | 306 | 310 |
| Interior architecture | 5 | 12 |
| Mechanical engineering | 283 | 356 |
| Mines and metallurgy | 174 | 161 |
| Physics (industrial) | 7 | 10 |
| Prebusiness | 44 | 46 |
| Miscellaneous | 69 | 72 |
| Total | 1,974 | 2,128 |

* This course was discontinued in 1931-32.

Curriculum.—Although extensive curriculum changes were completed and reported two years ago, nevertheless important changes have continued. The most far-reaching change which will go into effect next year is the substitution of one continuous five-credit course in general physics throughout the sophomore year for the previous system of instruction by quarters, one each for mechanics, optics, acoustics, electricity, and heat. This has increased the total credits for graduation in some of the departments and in the School of Mines and Metallurgy has necessitated a rather complete revision of the curricula. The choice of options now becomes necessary at the beginning of the sophomore instead of the junior year. The result is that students of metallurgy will no longer be required to take courses in surveying.

After prolonged consideration of the advantages of a common freshman year, it was concluded that while it is possible and desirable for many of the departments,

it is not universally advisable. Thus while we are convinced of the utility of a first and even second year curriculum common to as many students of technology as possible, we are equally sure it is not possible for all curricula within a four-year limit. In the case of architecture it is not feasible even in the five-year course which begins with freehand instead of mechanical drawing.

Freshman Committee.—Especial emphasis is being laid upon aid to the freshman in his earliest scholastic difficulties. There is a determined effort to rescue him before he becomes discouraged or falls hopelessly behind. In the hands of an efficient Freshman Committee this policy has yielded excellent results.

Graduate work.—Graduate work has increased somewhat in the past two years. There are about 180 graduate students in the Institute of Technology (Chemistry 103, Engineering 70, Mines and Metallurgy 7). There are 94 candidates for the doctor of philosophy degree and 86 for the Master's degree.

ENGINEERING EXPERIMENT STATION

Oak Street Laboratories.—The new Oak Street Laboratories consist of two industrial buildings remodeled as a WPA project at a total cost of \$120,000. The two buildings comprise about 70,000 square feet of floor area exclusive of basement. The larger of the two buildings is provided with a freight elevator, a $7\frac{1}{2}$ -ton traveling crane over the central section, and railroad trackage. Special equipment and facilities are provided for research in the fields of chemistry, cement and concrete, aerodynamics, materials and structures, internal combustion engines, and heating, ventilating, air conditioning, and refrigeration. Some of the specific features incorporated in the buildings are a 7×10 foot throat wind tunnel with capacity for an air velocity of 125 miles per hour, an insulated low temperature room 30 feet square by 25 feet in height with refrigerating equipment to cool the air to temperature of 25° below zero, a cement and concrete laboratory with temperature and moisture control room, an insulated room with railroad tracks for testing insulation of full-size refrigerator or passenger cars, four soundproof rooms for testing airplane engines, a laboratory equipped for chemistry and chemical engineering problems, and a large percentage of unassigned space for the development of new research projects.

The Hydraulics Laboratory.—The Saint Anthony Falls Hydraulics Laboratory is ideally located just below Saint Anthony Falls and has a water capacity of 300 cubic feet per second at a 50-foot head. It was constructed as a WPA project at a total cost of approximately \$500,000. The laboratory comprises a two-story main experimental section 300 feet long by 45 feet wide, a two-story hydraulic machinery laboratory 34 feet long by 24 feet wide, a turbine testing laboratory 75 feet long by 60 feet wide with floor level 40 feet below headwater, two large scale volumetric measuring tanks, and a lecture room and offices. There are three channels running the full length of the main laboratory—one an overhead supply channel 8 feet wide and 9 feet deep connected to the upper level of the falls, one a lower level experimental channel 9 feet wide and 6 feet deep supplied with water from the falls at its upper end, and one a lower level drainage channel. Provisions are made for any desired cross connections between the channels and water may be supplied to any unit of the laboratory, or may be carried to the measuring tanks from any unit excepting the lower level turbine testing room. The laboratory is adapted to a wide range of experimental work requiring large volumes of water up to a 50-foot head, or higher heads may be obtained from an overhead tank supplied with a pump.

In July, 1937, the new laboratories were combined with the existing Experimental Engineering Laboratories to form the present Engineering Experiment

Station. This combination, at small cost to the University, has provided excellent facilities for graduate and research work in the institute and has placed the University in a leading position for large scale research projects, many of which may be carried out in co-operation with government bureaus, technical societies, and industrial associations. These large-scale projects are often too expensive to be financed independently by the University and the co-operating agencies usually lack laboratory equipment and technical facilities. A close co-operation is mutually beneficial.

Co-operative research.—Co-operative research agreements have been in effect for several years with such institutions as the United States Bureau of Public Roads, the Engineering Foundation, the American Society of Civil Engineers, the American Society of Mechanical Engineers, the American Society of Heating and Ventilating Engineers, the Minnesota Department of Public Health, the United States War Department, and the Portland Cement Association.

Three new co-operative research projects have been started recently and have been made possible by the enlarged laboratories. Two of these, financed by the Northwest Research Foundation and under the direction of Professor Lloyd Reyer-son, are reported separately, page 370. A third project financed by the National Rock and Slag Wool Association is An Investigation To Determine the Causes, Effects, and Methods of Preventing the Accumulation of Moisture and Frost in Walls of Air Conditioned Buildings.

Other projects are under consideration and it is hoped that more government agencies, associations, and industries may take advantage of the opportunity for co-operative research work, and that the laboratories will be largely self-supporting and make substantial contributions to the technical knowledge and industrial development of Minnesota.

MINES EXPERIMENT STATION

More iron ore—49,052,096 tons—was shipped from Minnesota last summer than in any previous year. There was accordingly great activity among the mining companies, who desired to develop new ore reserves to replace the ore that was being shipped. The Mesabi Range has now reached the state where additional ore reserves can be secured only by developing methods for concentrating low-grade ore, and last fall and winter over twenty carloads of low-grade ore material were shipped to the Mines Experiment Station by various operators interested in determining the best concentration method. The staff has been busy all winter on this experimental work. In most cases, methods were developed for producing satisfactory concentrate, and it was thought that a number of new beneficiation plants would be constructed this spring (1938), especially on the Mesabi Range. However, business conditions are still so bad and the amount of ore to be shipped is so small that, in all probability, few new installations will be made.

Research projects.—The research organization has been working on magnetic roasting, differential density flotation, the design of iron surfacing for pavements, and a number of other problems of minor importance. Designs have been completed and equipment ordered for a water gas machine and gas holder to be erected this spring at the experimental magnetic roasting and concentration plant at Cooley, Minnesota. It is expected that the use of this gas as a reducing agent will materially reduce the cost of this new concentration method. A pulverized coal-burning furnace has been installed at this plant also, so that next year's operation will require no fuel oil. Oil has been used for both heating and reduction in the past.

Differential density flotation is a concentration process being developed for the purpose of separating the heavy iron oxide from the lighter gangue minerals. A liquid medium is prepared of the proper density to float the lighter gangue minerals to the surface, where they can be skimmed off, and to allow the heavy iron oxide particles to settle to the bottom. This heavy density liquid is now prepared by maintaining a suspension of finely ground, high silicon iron in water. The fine sand and dirt that accumulate in the medium are removed by magnetic separation. A small experimental plant will be in operation on the Range in the summer of 1938 to experiment with both iron and manganese ores.

Iron paving.—Progress is being made in the development of a satisfactory type of iron surfacing block for streets and highways. An experimental pavement about one-half block long was laid on Fifteenth Avenue on the University of Minnesota campus, on which skidding tests were made. These tests will be repeated later to determine the effect of a year's service. Some changes will be made in both of the experimental stretches of iron pavement on the campus in order to study certain characteristics that cannot be investigated in the laboratory. Designs have been prepared for a half-mile stretch of iron surfacing for the Miller Trunk Highway between the Hibbing cut-off and Eveleth. It was expected that this pavement would be laid in 1938, but it now appears that the concrete work will not be finished and ready for the iron surfacing before the spring of 1939.

NORTH CENTRAL EXPERIMENT STATION OF THE UNITED STATES BUREAU OF MINES

Scope of work.—A co-operative plant investigation with the Inland Steel Company was completed. The investigation covered primarily the determination of oxides in basic pig iron and in basic open hearth steel. The amount and composition of the oxides were determined in several hundred casts of basic iron produced in a 700-ton blast furnace. Oxides determined on a considerable tonnage of iron held in the mixer before transfer to the open hearth furnace indicated a loss of oxides between the blast furnace and the open hearth. The total oxides in the iron varied from 0.012 to 0.313 per cent. No relation was found between the oxides in the pig iron and the steel made from it. This gave useful information regarding a point of controversy that had long existed between blast furnace and open hearth operators, namely, that difficulties in making satisfactory steel were due to characteristics of the pig iron not disclosed by ordinary analysis.

It has been known generally that the silicon and sulphur content of pig iron was affected by furnace temperatures. This is in agreement with laboratory tests on the relative desulphurizing power of blast-furnace slags. The oxide investigation, however, afforded an opportunity to obtain quantitative data under actual operating conditions. The variation in silicon and sulphur with temperature fluctuations from cast to cast was obtained and a definite relation between silicon and sulphur content and the temperature of the iron was established.

With an increase in the number of modern continuous strip mills the demand for low-sulphur hot metal for the open-hearth charge has accordingly increased and proper desulphurization of blast-furnace metal continues to be a vital problem. By the method for comparing the desulphurizing power of blast-furnace slags mentioned in the last biennial report a survey was made of slags containing 15 and 20 per cent magnesium oxide. Data showing the effect of temperature on the desulphurizing power of slags containing 5 and 15 per cent magnesium oxide over the range 1,475° to 1,525° C. were also obtained.

A fundamental study was undertaken to determine the mode of occurrence of the sulphides commonly encountered in the iron smelting processes. The approximate solubility of ferrous sulphide in standard blast-furnace slag was determined and the presence of this sulphide in the colloidal state was established by the ultra-microscopic examination of glassy slags prepared under carefully controlled conditions.

Data on a method of desulphurizing pig iron in the ladle were obtained. This method could be used to supplement the desulphurization obtained in the blast furnace for the production of metal of particularly low-sulphur content or could be used during periods of irregular operation of the blast furnace when off-grade metal was produced.

In addition to the blast-furnace studies, work on special problems pertaining to explosive crushing and to the precipitation of smoke, fume, and dust was carried on. The large number of inquiries that were received regarding the use of sonic and ultra-sonic waves for the flocculation of dust and smoke was an indication of the great interest in that field. The work on this problem is now being carried on at the Bureau of Mines Eastern Experiment Station, College Park, Maryland.

SERVICE TO THE MINNESOTA TAX COMMISSION

The School of Mines and Metallurgy has continued to act as consultant to the Minnesota Tax Commission and in this capacity has made all of the ore estimates for the commission. This service is performed in accordance with an agreement made in 1909 between the Board of Regents and the Tax Commission. Mr. E. M. Lambert and Mr. L. S. Heilig have carried on this work as in the past.

Object.—The work consists of making inspection trips to the mines, visiting the mine officials in their offices, conferring with the mining companies' engineers, and making ore estimates based on data and information furnished by the mining companies. Many conferences are also held with the engineers of the Tax Commission. The ore estimates are used by the commission as one of the factors on which to base the valuation for ad valorem taxes and also in connection with the levying of an occupation tax on ore mined.

Services.—Inasmuch as the last biennial report to the Tax Commission covers the period from September 1, 1934 to August 31, 1936, this report will cover a similar period.

During the biennium ending August 31, 1936, the School of Mines and Metallurgy has reported on thirty-six properties. An aggregate of 81,124,131 tons of Bessemer, non-Bessemer, and manganiferous iron ores is involved in these reports. This relatively small number of properties reported reflects the diversion of effort along other lines during the prolonged tax litigation in 1934.

Of these reports, twenty-one showed an increase of 11,156,464 tons of ore, while five showed a decrease of 2,506,131 tons. The net increase shown in all properties reported during the biennium was 7,559,803 tons.

In addition to the tonnage of merchantable ore, the school reported 12,707,412 tons of nonmerchantable ore.

Field work.—During the biennium, four trips were taken to Duluth and the mining districts requiring the full time of two men for fifteen days. These trips covered the Vermilion Range from Tower to Ely, the Mesabi Range from Aurora to Calumet, and the Cuyuna Range from Crosby to Riverton.

Respectfully submitted,

SAMUEL C. LIND, *Dean*

DEPARTMENT OF AGRICULTURE

To the President of the University:

SIR: I submit the following report of the Department of Agriculture for the biennium 1936-38.

The influence of federal programs.—The recent expansion of federal activities related to agriculture and rural life has added to the work and responsibilities particularly of the administrative personnel of the Department of Agriculture. Such programs as Agricultural Conservation, Soil Erosion, Farm Security, Farm Credit, Rural Electrification, and others require much conferring and planning even in cases where the Department of Agriculture has no direct responsibility for administration. On the whole, the relations with those in charge of federal programs have been all that could be desired. Federal representatives have come to us for information on which to base their work and they have not been inclined to institute policies at variance with ours.

In connection with the work in agricultural adjustment, the federal act placed the responsibility of acquainting farmers with the provisions of the act on the agricultural extension service. In view of this requirement particularly, federal funds for extension were increased although not specifically so stated in the Bankhead-Jones Act. Other provisions in the Bankhead-Jones Act enlarged federal funds for research and resident teaching. These added appropriations have brought the funds of federal origin to a total which amounts to 36.55 per cent of the entire budget of the Department of Agriculture. Of the total funds used by extension nearly 77 per cent are of federal origin.

EXPERIMENT STATION

It is not possible for an experiment station to adopt a program which undertakes the solution of all the apparent pressing problems that confront those who engage in agriculture and closely related enterprises. Especially is this true at present because of the many marked social and economic changes rapidly occurring in our national life. It is important, however, that the experiment station be alert to changing conditions and that it endeavor to relate its discoveries to them in order that its constituency may profit by the laws, principles, and facts it discloses through fundamental investigations.

The pressing problems.—The Minnesota Agricultural Experiment Station is keenly aware of its responsibilities and of its inability to meet all of the legitimate demands made upon it. Solutions of many pressing problems have been wholly or partially achieved, but many of the important and even urgent questions relating to agricultural production, distribution of farm products, and rural life still await investigation. Always it must be remembered that researches into these problems of fundamental importance have a direct bearing, not only on the well-being of rural communities, but in very large measure also on the well-being of the general public.

One very real limiting factor in the progress of agricultural research is the lack of funds with which to attack many of the problems which represent the demands of farm people for complete or adequate knowledge of their interests. Recent increases of federal appropriations have been helpful in initiating new lines of research and in developing co-operative studies through regional laboratories

established by the United States Department of Agriculture. But state appropriations have not kept pace with the demands for more researches in many lines of agricultural interest. This is particularly true in the fields of agricultural economics, rural sociology, and farm forestry. The requests and appeals for more research grow more insistent as the complexities of agriculture and rural life increase.

The work of the station.—During the past two years the work of the Minnesota Agricultural Experiment Station consisted of a continuation of many of the lines of project studies adopted in the preceding years, together with the initiation of a number of new projects.

One of the new projects relates to swine breeding and is organized as a co-operative undertaking with the Federal Government in connection with the regional swine breeding laboratory, the headquarters of which are located at Ames, Iowa. In conducting this project, use is being made of the swine herds at University Farm and at Waseca, Morris, Crookston, and Grand Rapids. It thus represents a comprehensive program of co-operation within the experiment station organization.

Another of the new projects, a study of the factors involved in the storage of soybeans, is organized in co-operation with the federal regional soybean laboratory at Urbana, Illinois.

In establishing the regional laboratories the United States Department of Agriculture adopted a policy of conferring with the directors of the experiment stations in the various regions for the purpose of coming to agreement as to what projects permissible under the wording of the Bankhead-Jones Act should be undertaken. After coming to agreement the scientists of the region whose work related to the project adopted were asked to meet with the scientists from the United States Department of Agriculture to organize the project. Later each experiment station in the region where a particular laboratory was located was asked to appoint a member of the staff who would serve on a committee that would act in an advisory capacity to the director of the laboratory. From the Minnesota station Dr. Clyde H. Bailey of the Division of Biochemistry is a member of the committee for the soybean laboratory, and Dr. Laurence M. Winters of the Division of Animal and Poultry Husbandry for the swine breeding laboratory.

Briefly stated, the function of the soybean laboratory is to find new uses—particularly industrial uses—for soybeans, which have become a major crop over large areas in the Middle West. The function of the swine breeding laboratory is to discover, if possible, methods of breeding through which swine better adapted to modern demands can be produced. The corn belt of the Middle West is the greatest swine producing area in the world. The existing excellent breeds of swine were developed primarily as lard hogs. Emphasis now is less on lard and more on quality bacon sides and hams. If the existing breeds can be modified so that they are more suitable for bacon and ham production, or if new breeds can be developed that are better adapted for this purpose, a significant contribution will have been made to the agriculture of the corn belt. Obviously any modifications in existing breeds or any new breeds created would be unsuccessful if they were not hardy and prolific or otherwise adapted to corn-belt conditions for growing swine.

All new money for research in the Experiment Station has been provided through the federal Bankhead-Jones Act. In addition to the projects mentioned above, the projects initiated with this money include studies on pastures; control of weeds; genetic reactions in swine and poultry; color inheritance in dairy cattle;

the nature and variability of plant disease resistance with special reference to potatoes, small grains, and legumes; the effect of fertilizers and irrigation on raspberry growing in the Duluth region; and studies pertaining to the palatability and methods of utilization of such products as meat and Minnesota grown apples and potatoes.

Researches were actively conducted on 289 projects during the biennium. The number alone indicates an undertaking which obviously calls for much time and effort on the part of members of the staff in the Department of Agriculture.

The establishment of new regional laboratories.—The Agricultural Adjustment Act of 1938 provides for the establishment of four regional laboratories, each to be provided with one million dollars per annum. The function of these laboratories is to find new uses and new outlets for those major crops such as corn, wheat, and cotton in which there are regular or seasonal surpluses. It is not yet known where these laboratories will be located, how they will be organized, or what crops will be selected for first consideration. Sole responsibility for them is placed with the United States Department of Agriculture and obviously its procedure must be in keeping with the wording of the act.

Whether or not significant co-operation between the state experiment stations and these laboratories can or will be proposed is yet to be announced. Since they are being created out of a provision of the 1938 Agricultural Adjustment Act it may be supposed that they will attempt with all possible expedition to find uses and outlets designed to help solve maladjustments in agriculture that are traceable to overproduction. For this specific purpose four million dollars per annum is a large sum of money which cannot be profitably spent without the employment of high-class talent. If these laboratories are to be set up as separate institutions with no connection with the state institutions in the various regions, the state institutions may expect difficulty in retaining a number of their most capable research men. It is not assumed that the laboratories will confine their search for talent to the experiment stations. Clearly they will comb through all departments of all institutions for the kind of men they need and want. It is hoped that the laboratories will be organized on a basis of co-operation with other agencies conducting research so that capable research workers can remain at home, and in their own laboratories conduct fundamental studies that will serve as first steps in finding new uses and outlets for the commodities included in the program of the regional laboratories. After all, many of the scientists in the Experiment Station particularly, are engaged in researches that have a bearing on the task for which these regional laboratories are being established.

AGRICULTURAL EXTENSION

The biennium has witnessed a further co-ordination of regular extension work and the so-called "action programs" of the Federal Department of Agriculture. With the advent of the federal emergency programs in 1934, extension work as it had been developed over a long period of years was largely set aside and the interest of farmers was directed to the new activities of the federal department and the direct action programs. During the past two years there has been an almost complete return of interest in regular extension work and participation is perhaps greater than ever before. At the same time, the extension service is maintaining its rightful position of leadership and responsibility for the educational work within the state in connection with the various federal programs.

Planning extension programs.—Definite progress has been made during the biennium in the planning and execution of extension programs of work. To be effective, extension teaching must represent the needs and desires of local people as expressed by their own groups. To have the county program reflect needs as expressed by the people themselves, program planning committees have been developed to draw up the plans of work for each year. The personnel of these committees is representative of the serious thinking people in all communities. The agent is responsible for carrying out the program drawn up by the planning committee. This approach to the work in the counties has greatly increased participation and enlisted the voluntary co-operation of great numbers of local leaders. The extension service expects to continue and strengthen this approach in the counties.

New problems and the extension program.—Agricultural extension work has for its purpose the social and economic improvement of the farm family. To build a sound economic foundation under the farm business is perhaps the first objective. The numerous extension activities that deal with production and marketing problems have been kept abreast of the changing conditions in agriculture. The rapid shift toward mechanization of farm operations and the change in major sources of farm income from grain to livestock and dairy products are but two of numerous illustrations of our changing agriculture. New problems are constantly arising and emergency situations continue to demand much attention. In 1936 the state was swept by an outbreak of equine encephalomyelitis, which took an enormous toll of the horse population. Grasshoppers were a serious threat in both 1937 and 1938, and only alert action on the part of the state entomologist and the extension service prevented serious crop damage. The home demonstration work, through its numerous projects and volunteer local leaders and community groups, is reaching thousands of homes and making for more satisfying and efficient home life on Minnesota farms. Lack of funds prevents the addition of home demonstration agents in many counties to which this work should be extended.

The 4-H Club work continues to carry on at a high level of participation and attainment. During the past year 44,358 boys and girls were enrolled in club work and 82.7 per cent of this number successfully completed their projects. The state continues to stand among the top states of the nation in number of club enrollments, per cent of completions, and low cost of administration per club member enrolled. This is only possible because of the wholehearted support and generous assistance given by all groups to 4-H Club work, including hundreds of volunteer local leaders. The recent action of the Minnesota State Fair Board and the State Executive Council in making available funds for the construction of a \$500,000 4-H Club building on the State Fair grounds is a reflection of the high esteem in which 4-H Club work is held by the people.

The extension program with older rural youth is expanding as rapidly as it is possible to accept new units and give them the required attention. At present, there are rural youth organizations in 34 counties, with a membership of 2,000. These groups meet throughout the year and through study and discussion consider those problems vital to the welfare of older young people. Short courses, leader training meetings, and assistance of subject-matter specialists have been made available to these groups during the year. The response indicates a real need and a worthwhile service.

Co-operation with the federal and state governments.—As mentioned elsewhere, co-operative relations exist between the federal action programs and the agricultural extension service. The 1938 Agricultural Adjustment Act specifically designates the extension service as the responsible agency for the educational phases of the

program. While the extension service cannot accept administrative responsibility for the Agricultural Adjustment Act, it has endeavored to inform all farm people fully in regard to the purposes and provisions of the act and then has left it to the farmer to decide the question of individual participation. The relationships between extension and the state Agricultural Adjustment Administration have been cordial and co-operative at all times, and the fact that the director of extension is by law a member of the state AAA committee has tended to prevent any possible estrangement of the two groups. Seven staff members under the direction of the specialist in agricultural conservation devote full time to the informational phases of the AAA program. Each is assigned as supervisor of the work in a given group of counties.

Similar close working relationships exist with the Soil Conservation Service, the Farm Security Administration, the Farm Credit Administration, and the State Department of Agriculture. As these various agencies tend to become a permanent part of the agricultural program, it is apparent that correlation of effort and activities is increasingly necessary. In a broad sense, they all have to do with proper land use, and through this approach more effective correlation may be possible. During the biennium, a specialist in soil conservation was added to the staff, financed jointly through agricultural extension and the Soil Conservation Service. The 1937 Legislature passed a Soil Conservation District Enabling Act, and three districts in southeastern Minnesota are now in progress of organization. The educational work in this important program is the responsibility of the extension service.

Extension funds and personnel.—During the biennium there has been a moderate increase in federal funds for extension work. The total federal funds budgeted for extension in 1936-37 amounted to \$437,868, and in 1937-38 they were \$446,571, whereas in 1935-36 total federal funds were \$425,165. State funds amounted to \$134,000 for each year of the biennium, representing no change from the previous two-year period. At the close of the 1937-38 fiscal year, regular extension agents in agriculture were employed in all but three counties in the state. Three counties have two agents each, while Anoka-Sherburne and Isanti-Kanabec are each served by one agent jointly. There are 16 assistant agricultural agents in training; 24 home demonstration agents in 23 counties; 1 assistant home demonstration agent; 4 full-time 4-H Club agents in 3 counties; and 61 part-time temporary agents in as many counties. The state supervisory staff and subject-matter specialists now include 34 men and 13 women.

While the Agricultural Extension Division has a comparatively large staff, it is considerably below the personnel of neighboring states of equal agricultural importance in home demonstration agents and subject-matter specialists. There is an urgent demand for additional assistance in farm forestry to rebuild the depleted forest resources on the farms of northeastern Minnesota, to develop tree planting in the prairie regions of the state, and to give assistance in the marketing of woodlot products. A land use specialist is also much needed, as the problem of land zoning and classification is being seriously considered in a large area of the state. Additional staff will also be required in soil conservation as the Soil Conservation Service is expanded. The rebuilding of timber resources and soil conservation are fundamental to the economy of the state and these needs should be met in the near future.

It is becoming increasingly difficult to obtain men and women for county extension positions who have the training, personal qualifications, and ability needed for the types of work involved. One reason for this is that the various new agri-

cultural programs promoted by the Federal Government have attracted capable young men and women who otherwise might have engaged in county extension work. Another reason is that the changes occurring in extension call for men and women having a more thorough and wider training than was required in the work in the past. One encouraging feature in the situation, however, is that the successful older agents are tending to remain in the work and there is a disposition to reward them with some increase in salary. Every effort is being made to maintain standard requirements, namely from two to five years' experience in teaching or responsible farm experience after graduation from a college of agriculture. Worthy of careful study are the questions: What should be the standard requirements under new and changed conditions and what levels of salary ought to be established to attract and keep men and women who are qualified for effective county agent work?

THE COLLEGE OF AGRICULTURE, FORESTRY, AND HOME ECONOMICS

Registration.—The college registration again shows a large increase over the previous biennium.

REGISTRATIONS IN AGRICULTURE, FORESTRY, AND HOME ECONOMICS

| | Registration | | Biennial Increase | Registration | | Biennial Increase |
|----------------------|--------------|---------|----------------------|--------------|---------|----------------------|
| | 1934-35 | 1935-36 | 1934-36* | 1936-37 | 1937-38 | 1936-38 |
| | | | Per Cent | | | Per Cent |
| Agriculture | 290 | 398 | + 56 | 518 | 622 | + 56 |
| Forestry | 323 | 486 | +215 | 507 | 503 | + 3 |
| Home Economics | 430 | 504 | + 11 | 589 | 638 | +27 |
| Total | 1,043 | 1,388 | +61 | 1,614 | 1,763 | +27 |

* For basis of calculation see *The President's Report*, 1934-36.

These increases are considerably in excess of the general percentage increase of registration of the University as a whole.

Of more importance, perhaps, is the readjustment of registrations in the three main groups of the college. The agricultural group for the two last biennia gives 56 per cent increase at the end of each biennium. It seems probable that the trends of registrations in Agriculture and Forestry are both responding in a healthy manner to general conditions. Forestry in the biennium 1934-36 had an extraordinary increase of 215 per cent. The same has been true in many other schools of forestry. In addition, a considerable number of new forest schools were established in response to the great demand for foresters in the period following the depression of 1932-33 because of federal and state reforestation programs and CCC camp work. While our registration showed a recession of one per cent in 1937-38 from 1936-37, we still have over five hundred students in this group. It is probable that a slightly smaller registration will meet the normal demands for men in this field. On the other hand, the agricultural field offers perhaps wider and more numerous opportunities. State and federal economic programs, commercial and industrial developments in land use, and at least a partial rehabilitation of agriculture throughout the country have offered excellent opportunities for employment of graduates. This has been reflected in the registration, and the prospects seem to be for a continued

increase. The registration in Home Economics has shown a rather normal and consistent though gradual increase.

Graduate work.—The percentage of students registered for graduate work in divisions on the University Farm campus is large compared with the percentage of undergraduate students in relation to the enrolment of the whole University. Up to the end of the year 1937-38 there have been granted from the Graduate School approximately 971 higher degrees to students registered in major subjects on the Farm campus. Of these, about 319 were doctors of philosophy and the remainder Master's degrees. In addition, approximately 169 students were registered for minor work on this campus with majors on the Main campus. It is obvious that the large registrations in the Graduate School on this campus constitute a considerable teaching load for many members of our faculty. It is also an important fact that this graduate work is closely tied in with the experiment station work and contributes a large amount of research at a minimum of cost to our experiment station problems.

Curricula.—In response to a growing demand a new curriculum, Home Economics Related Science, has been introduced for students who desire special technical training in the processing of agricultural food products. This field has been extensively and thoroughly covered with respect to milk products in the Division of Dairy Husbandry and in regard to cereal products in the Division of Biochemistry. Other regularly established courses given in this college and in other colleges of the University which have a bearing on food processing and preserving, such as canning, pickling, and refrigerating, have been listed in the new curriculum.

Past experience with our Wildlife Management Curriculum indicates that a gradual development of this curriculum will be possible with no appreciable, if any, additional cost to the University.

The faculty of the college has established a new regulation by which every student graduating from this college is required to complete at least 18 credits of work in social science fields. It recognizes the fact that every student who has obtained a college education largely at public expense owes a general educational debt to the public welfare. The most adequate payment of that social debt, it is believed, lies in, first, a more proficient and up-to-date practice of the vocations or professions for which the student is trained, and, second, in the contribution that this professionally or vocationally trained graduate can make to the public interests by a better understanding of the relation of these professions or vocations to the public welfare. This second contribution is one not adequately emphasized in the past, and little or no provision pertaining to it has been provided in the requirements for graduation. It is assumed that this work will give at least an elementary background in sociological, economic, and political affairs.

Standards for graduation have been raised in several of the curricula by requiring of candidates for degrees in the major fields, scholarship achievements above the average of the class. This has been especially true in the training of high school teachers, dietitians, and specialists in scientific fields. It is clear that vocations and professions demand higher standards than those attained by the average student.

Student relations.—It has been evident for many years that one of the greatest improvements in our educational program for students would come in a better understanding of the individual student, his environment, and his problems, and in a constructive program to enable each student to obtain the maximum of profit from his college career. We have accumulated personal information concerning the students, and have made some constructive efforts during the biennium to make it available to the faculty advisers.

The special freshman orientation tests which were devised about five years ago have now passed through the experimental stages and have given such consistently good results as to warrant their inclusion in our regular college routine. These tests determine whether the student has the particular aptitudes required for successful completion of the major courses in our college. In addition, they furnish valuable information to advisers and to the college administration in adjusting students to their college programs.

It is generally recognized that a judicious amount of social activity is a valuable asset in the educational career of the student. Because of our partial isolation from the Minneapolis campus, especially in the evenings when the intercampus car is not running, our students must find many of their social activities at University Farm. They have for some years been emphasizing the lack of space and equipment for these activities. New quarters have now been allotted for this purpose in the Old Dairy Building, and in the near future it seems probable that the available facilities will greatly improve the social conditions.

The largest single problem the students face is that of partial or complete financial self-support. A large majority of the men earn either a part or all of their way through college. Loan funds and especially scholarships are therefore particularly welcome. Charles L. Lewis, a graduate of the forestry course in this college in 1910, has established a \$100 scholarship for students in Forestry. In 1937 Sears Roebuck and Company of Chicago established a scholarship fund of \$2,500 to be used for men students in agriculture who come from farms in the state and who would not be able to begin a college course without assistance. Twelve scholarships of \$100 each were awarded in the college in 1937-38. The balance was allotted to the schools of agriculture. Federal and state aid has been available for some students, but the necessity for jobs is still one of the greatest student needs.

The employment of graduates of the college has remained at least fairly satisfactory. There has been some expected decrease in the demand for graduates from the forestry course. Apparently there is a sustained demand for the graduates in Agriculture, especially in Agricultural Education, and the same is true of graduates in Home Economics.

Relation to other educational agencies.—It is emphatically recognized by the faculty that the work of the high school teachers of agriculture throughout the state is one of great importance to the improvement of Minnesota agriculture. Each year thousands of boys are graduated from these high schools and return to the farm with a better knowledge of modern agriculture. The graduates of these high schools, together with the graduates of our schools of agriculture, raise the efficiency level of farming in the state. Most of the problems of agriculture, we believe, will ultimately be solved chiefly by education. It is, therefore, important that the College of Agriculture, Forestry, and Home Economics continue to prepare teachers of agriculture for these high schools. The Minnesota Agricultural Instructors Association and the College of Agriculture have set up special committees whose task it is to promote and develop the greatest amount of co-operation.

SCHOOLS OF AGRICULTURE

The main objective of the schools of agriculture is to train young men and women for farming and rural life. A few of the graduates continue their educational training in the College of Agriculture, Forestry, and Home Economics, and in the Graduate School; a few engage in occupations other than agriculture but most of them locate on farms and become citizens in rural communities. In general

the records made by school graduates as farmers and rural homemakers reflect credit on the institution in which they have received their training. Throughout the state the attitude toward the schools is wholesome and this is because their graduates have acquitted themselves well as farmers and citizens.

In the earlier years of their existence the schools placed major emphasis upon technical agricultural subjects such as soils, crops, and animal production. Fortunately, however, from the beginning, those in charge of the schools recognized that farming is a way of life as well as an industry. Therefore, they placed emphasis on subjects having a bearing on training for rural citizenship and revised their curricula so as to place more emphasis on rural social and economic problems. As a result of their training, school graduates have been interested and effective in the organization of farmers' co-operatives. They have been influential also in the organization and maintenance of other types of societies and organizations essential to the welfare of the communities in which they live. Modern trends in rural life demand that farm people be increasingly effective in enterprises and movements requiring participation in organizations.

But a primary function of farmers is to produce the materials of food and clothing for all of the people. Since one of America's goals is efficiency, it follows that the schools must emphasize, as they always have, efficiency in conducting the farm enterprise. In order to do this, instruction must be given in subjects having to do with the biologic and economic problems of farming. How to strike an equitable balance between technical and social subjects in the best interests of students is a matter which continues to receive serious study by the administrators and faculties of the schools.

It is rather difficult to explain the nature and functions of the schools of agriculture to people who have had no experience with institutions similar to them. They are not high schools and they are not colleges. Essentially they are vocational schools, occupying an unusual and unique position in the educational system of the state. Originally they supplied educational needs to young men and women who had not gone beyond the elementary schools and who had planned to engage in farming. Increasingly they are also serving the needs of high school graduates who do not plan to earn a college degree but who desire to have one or two years of training especially adapted to the needs of men and women who are expecting to operate land and live in the open country.

Many young men and women indicate that they cannot enroll in the schools without financial aid or an opportunity to earn all or a part of the cost of their schooling. In recent years federal and state aid has helped somewhat in providing for these needy young people. Limited scholarships have also helped, but the amount of employment that can be given to students is not sufficient to accommodate all who would come to the schools if they could earn some money while in attendance.

SHORT COURSES

The interest in short courses and visitations to various centers where work is being conducted by the department has been marked during the biennium. Long established short courses drew increased attendance, and requests for new courses were made. Every division at University Farm and all the branch schools and stations now have responsibilities in connection with short courses. The total attendance at the 14 courses at University Farm was 13,436. At the branch centers it was approximately 8,000.

For many years the Northwest School and Station has co-operated with farmers' organizations in the Red River Valley region in conducting the Northwest School Farmers' Week and Red River Valley Winter Show. Between seven and eight thousand people attend this function annually.

Various visitation days were held at University Farm and at the branch stations in order that farmers and others interested in agriculture might witness researches under way in the Experiment Station. Farmers responded in large numbers to inspect the experimental fields given over to corn, oats, rye, flax, pastures, and weed control, and to examine lots of animals used in feeding trials. Without question, enterprising farmers gain much benefit through these visitations. The estimated attendance for the biennium was 5,000.

Respectfully submitted,

W. C. COFFEY, *Dean and Director*

LAW SCHOOL

To the President of the University:

SIR: I submit the following report of the Law School for the biennium 1936-38.

Semicentennial of the Law School.—By the territorial charter of 1851, the Regents of the University were directed to establish a department of law. The Law School, originally called the College of Law, held its first session in 1888-89, and completed its fiftieth year in 1937-38. (See pp. 101-102.)

The professional law course.—My report for 1928-29 described the new four-year law course that the school was developing, and the reasons for its adoption. That course was available for the first time to students entering in 1931. It was based on two years of college work, and was alternative to a three-year law course based on three years of college work. The four-year course has grown in favor each year. The faculty has now decided to discontinue the three-year course and to require four years of law school work of all students entering the Law School in 1938 and thereafter. This is the first law school to require a four-year course, regardless of the amount of previous college work.

The standard of attainment required for the professional degree is also being raised. Students on entering will register for the nonprofessional degree of bachelor of science in law. The course for this degree constitutes the first two years of the course for the professional degree. It includes most of the law work useful in business, and some students take this course for that purpose. The specific college work required for the professional degree will not be required for admission to this course, and the degree will continue to be awarded upon the same attainment as in the past. But those who wish to go on to the professional degree must have the college subjects specified in the prelaw course. They must also attain an average grade in at least one of the first two years in the Law School five points higher than the grade required for the first degree. This requirement will prevent over 20 per cent of the students registering for the professional degree who might have qualified for it in the past. As said in previous reports, the faculty has felt that the attainments of the lower ranking graduates were insufficient for the practice of law, although they might suffice for business purposes. Formerly all graduates of this school were able to pass the state bar examinations, but in the last five years several low-ranking graduates have been unable to gain admission. The State Board of Bar Examiners is to be commended for raising its standards, and this school should co-operate with the board. Our past practice of conferring the professional degree upon students qualified for business but not for practice was an embarrassment to the board. This will be remedied by conferring only the non-professional degree—which does not admit to bar examinations—upon such students, and the professional degree only upon those well qualified for admission to practice.

The prelaw course.—Law schools generally accept whatever college work is offered for admission. They stress quantity, but make no effort to control content. Our Law School requires specific subjects in the prelaw college course. It does not believe that one course is as good as another. All studies are useful, but some more so than others for a given end. Foreign languages, natural sciences, and mathematics—all subjects of high school level—contribute less than philosophy, psychology, and the social sciences to a lawyer's training. For this reason a student should acquire as much knowledge of the first group as possible before he enters college. At the college level, attention should be centered upon those fields that make the larger contribution.

With the co-operation of the other faculties concerned, a satisfactory prelaw course has been organized. A new course on government has been instituted which is a better foundation than the formerly available course on American Government. The course emphasizes the theory of government, and the evolution of governmental institutions. A course in accounting has also been added. The prelaw course required for the professional degree now consists approximately of the following quarter credits: 15 of English Literature and Composition; 15 of Philosophy (Logic, Ethics, and Problems); 9 of Government; 10 of Principles of Economics; 9 of English Constitutional History; 6 of Psychology; 5 of Accounting; and 21 of electives.

The Law School course.—While endeavoring to give its graduates a broader outlook on law and its administration, a law school should not forget that it is a vocational training school, therefore three of the four years in the Law School are devoted to the standard vocational training course. In these years, a new course in Banking and Negotiable Paper has replaced the old course on Negotiable Instruments. The course on Bankruptcy has been replaced by a more comprehensive course on Creditors' Rights. In the remaining year, courses on Jurisprudence, Judicial Administration, Legislation, and either Administrative Law or Labor Law and Trade Regulation are required. These constitute about one half of the work of the year. The other half is elective and may be chosen from the curricula of the Law School, the College of Science, Literature, and the Arts, or the School of Business Administration. Comparative Law, Psychology and Law, and Modern Philosophies of Social Reform are new elective subjects in the Law School curriculum. Tutorial and seminar courses have also been made available in several fields.

Combined course in Arts and Law.—The combined course in Arts and Law has been adjusted to the four-year law course and made more flexible. The course will henceforth require seven years instead of six. It will consist of three years of college work and four years of law school work. In the first two years of the college period, the student will complete the prelaw course and satisfy the requirements for admission to the Senior College of Science, Literature, and the Arts. The third year of college work, which formerly had to be completed before entering the Law School, may now be taken at any time in the course. This change enables students to select one year of college work in the light of their legal studies. They will get greater benefit from advanced social studies after they have studied law than they could before.

Combined course in Business Administration and Law.—A new combined course in Business Administration and Law has been arranged by which the degrees of bachelor of business administration and bachelor of laws may be secured in seven years. The course consists of two years preprofessional work which will satisfy the requirements for admission to both the School of Business Administration and the Law School—one and one-half years' work in the School of Business Administration; and three and one-half years in the Law School. The work in business administration may be taken before the law work, concurrently with it, or part before and part concurrent with it. There is a growing demand for graduates trained in both business and law, and this course should prove popular with students.

Student registration.—The student registration for each of the last four years was 323, 335, 355, 335, respectively. In the same years the state registrations were 703, 731, 781, 809, and the national registrations 40,211, 41,920, 40,218, 39,255.

RECORD OF CANDIDATES TAKING MINNESOTA BAR EXAMINATIONS FOR THE FIRST TIME, 1933 TO 1935, INCLUSIVE,
AS THEY APPEAR TO JUNE 30, 1938

| | CANDIDATES FROM UNIVERSITY OF MINNESOTA | | CANDIDATES FROM OTHER LAW SCHOOLS | | TOTALS | |
|------------------------------------|--|--|--------------------------------------|---------------------------------------|--------|---------------------------------------|
| First examination | 175 | Passed--148= 85% Failed -- 27 = 15% | 274 | Passed--126= 46% Failed --148= 54% | 449 | Passed--274= 61% Failed --175= 39% |
| Did not reappear | 1 | | 42 | | 43 | |
| Second examination | 26 | Passed-- 16= 62% Failed -- 10= 38% | 106 | Passed-- 35= 33% Failed -- 71= 67% | 132 | Passed-- 51= 39% Failed -- 81= 61% |
| Did not reappear..... | 3 | | 31 | | 34 | |
| Third examination | 7 | Passed-- 4= 57% Failed - 3 = 43% | 40 | Passed-- 4= 10% Failed -- 36= 90% | 47 | Passed-- 8= 17% Failed -- 39= 83% |
| Did not reappear..... | 3 | | 25 | | 28 | |
| Fourth examination..... | | | 11 | Passed- 3= 27% Failed -- 8= 73% | 11 | Passed-- 3= 27% Failed -- 8= 73% |
| Did not reappear..... | | | 6 | | 6 | |
| Fifth examination | | | 2 | Passed-- 0 Failed -- 2=100% | 2 | Passed-- 0 Failed -- 2=100% |
| Did not reappear..... | | | 2 | | 2 | |
| Total passed | 168 | 96% | 168 | 61% | 336 | 75% |
| Not admitted to June 30, 1938..... | 7 | 4% | 106 | 39% | 113 | 25% |

The law library.—In the biennium, 12,469 volumes were added to the law library. The total is now 100,800, which places the library sixth in rank among the law school libraries of the United States. Of the 12,469 volumes added, 2,866 were by gift, 939 by exchange, and 8,664 by purchase.

The most important purchase during the biennium was a copy of Statham's *Abridgement* printed by Pynson in 1488. Statham is the original source book for much English law, many of the manuscripts used by him never having been located. Other purchases of importance include the *Local and Personal Acts of the British Parliament from 1798 to 1927*; early acts of Indiana, Kentucky, Mississippi, Missouri, and Wisconsin. Many gaps in the reports of administrative boards, tax commission reports, attorney general opinions, etc. have been filled.

The most pressing need is foreign law material. Funds have been insufficient to build an adequate collection in this field. These materials must be obtained to provide for the work in comparative law which is now being started.

Federal Aid students and WPA workers have been of great help to the law library. Much work was done which was greatly needed, but for which no regular funds were available. As a result, the physical condition of the law library has been greatly improved.

Minnesota bar examinations.—For the purpose of ascertaining how many Law School graduates are unable to pass the Minnesota bar examinations, a study was made of the records of all candidates who wrote the examinations for the first time in 1933 to 1935, inclusive. This period was chosen in order to allow time for repeated attempts, and the records of those who failed were examined down to June 30, 1938, when it might reasonably be assumed that they would not reappear for further examinations. The results are shown in the accompanying table. From this Law School there were 175 candidates, of whom 168 (96 per cent) were admitted. From other law schools there were 274 candidates, of whom 168 (61 per cent) were admitted. Of all candidates, 25 per cent failed to gain admission. In the period 1926 to 1932, of which a study was included in my last report, 18.5 per cent were not admitted.

The annual admissions by examination have markedly dropped in the last ten years. In 1928, the admissions were 136, and in 1937 they were 76. Both the number of candidates and the proportion that pass have declined. More are still being admitted than can find places in practice.

Respectfully submitted,

EVERETT FRASER, *Dean*

MEDICAL SCHOOL

To the President of the University:

SIR: I have the honor to transmit herewith the report of the Medical School for the period 1936-38.

Fifty years of service.—This biennium marks the completion of the first half century in the history of the Medical School of the University of Minnesota. Just fifty years ago the facilities of the Minnesota Hospital College, the St. Paul Medical College, and the Minnesota College of Homeopathic Medicine were offered to, and accepted by the Board of Regents to form the beginning of a unified system of medical education for the state of Minnesota under the immediate direction and supervision of the University. Prior to this action, there had been four proprietary medical schools in the Twin Cities. Three of them turned over their charters to the University at this time. The other affiliated with Hamline University, but twenty years later it, too, was merged with the school of the University of Minnesota.

In spite of the fact that there were these several medical schools in the Twin Cities and numerous able and well-intentioned physicians on their staffs, they had no laboratories, practically no hospital facilities, and no staff devoting itself primarily or exclusively to medical education. The first Medical School of the University had its beginning and spent the first six years of its existence in a small building on Sixth Street and Ninth Avenue South which had been the property of the Minnesota Hospital College and St. Paul Medical College.

The merger of these medical schools was a significant milestone in medical education in the Northwest because it laid the basis for the development of a great, unified medical school under the University to serve not only the Twin Cities, but the whole state of Minnesota. From that time until the present—less than the life span of a single individual—this school has developed into one of the outstanding medical schools in the country. This splendid progress occurred, however, not by chance but because of the vision and sound leadership of the presidents of the University and the deans of the school, the support of a strong faculty, and an understanding and progressive Board of Regents.

The primary functions of a medical school of a state university are, first, to educate physicians to render the best of medical service to the citizens of the state and this involves the training of both general practitioners and specialists; second, to advance scientific medical knowledge so that it may be possible to prevent or to treat successfully an increasing proportion of human illnesses; and third, to provide medical care for those citizens of the state who become patients in the hospital under the supervision of the University. To discharge these functions requires a large, able, and scientifically progressive faculty. At the present time, our faculty, our facilities, and our student body are the best in the history of the school. Most departments are adequate but we should not fail to recognize the few weaknesses which should be corrected as rapidly as possible.

Selection of students.—Given students of superior ability, integrity, idealism, good judgment, and a sincere desire to be of service to their fellowmen, a first-class medical school is able to graduate excellent physicians. No medical school, however, can provide a training which will compensate for the lack of any of these essential personal characteristics. Furthermore, a medical school with limited facilities must accept a great responsibility in granting the privilege of pursuing

the study of medicine to some applicants and denying this privilege to others. With these responsibilities clearly in mind, the Admissions Committee of the Medical School during the past biennium has given greater attention than ever before to an evaluation of the abilities and personal characteristics of those applying for admission. In selecting students no undue influence of any sort has been brought to bear upon the committee which has devoted much time and care to this most important duty. It has been satisfying to notice that the ability of the students admitted to the Medical School is steadily increasing year by year.

Entrance requirements.—By vote of the faculty the minimum entrance requirements of the Medical School have been increased from two to three years of college work, with general psychology, physical chemistry, and genetics and eugenics added to the specific requirements. This change, which becomes effective in the fall of 1939, was made because the great expansion in the field of the medical sciences makes the additional background of college work most desirable. During recent years, few students have been admitted to the Medical School with a minimum of two years of college work, so in practice this ruling will not affect many individuals. Subsequent to the action of our faculty, the Council on Education of the American Medical Association made a specific recommendation that three years of college work should be the minimum required for entrance to approved medical schools.

Comprehensive examinations.—A study during 1937-38 of the comprehensive examination system, which was inaugurated some ten years ago, indicates that it has the almost unanimous endorsement of students and faculty. Some minor modifications were suggested and one major change has been voted by the faculty: that in the freshman and sophomore years a student will be dropped after two failures on the comprehensive examination. In the junior year, the rule which previously pertained for all years, namely, that a student is dropped after a third failure, will be continued.

Psychopathic Hospital.—For many years, one of the greatest needs of our Medical School was for clinical facilities for the teaching of mental and nervous diseases. This important deficiency in our teaching program was finally met during the biennium by the building of a psychopathic hospital addition to the University of Minnesota Hospitals and by the provision of an appropriation for the maintenance of this unit. This hospital unit was put into operation approximately a year ago and already has been rendering an invaluable service to the people of the state as well as to the education of physicians. Because of the reduction in the amount of the appropriation requested, it has not been possible to care for as many patients or to provide all the staff that is desirable, but the unit has enabled us to make an excellent beginning in this most important field.

Psychiatric Clinic for Children.—Our teaching and research program in psychiatry needs to be supplemented by a clinic which is working primarily with children. Childhood is the period in which most emotional and psychiatric problems have their origin and also the time that the possibilities of successful treatment are brightest. This makes it important that senior medical students and graduate students in pediatrics and in psychiatry have experience with the emotional problems of children. Grants of \$50,000 from the trustees of the Stevens Avenue Home of Minneapolis and of \$75,000 from the Commonwealth Fund of New York which have just been accepted by the Board of Regents will provide support for such a clinic for a five-year period.

Public Health Training Center.—The training program for health officers, public health engineers, and public health nurses, inaugurated two years ago, has

been developed to serve as a regional training center for this north central section of the United States. During the past biennium an annual grant of \$18,000 from the United States Public Health Service has supplemented the university funds for this important public service program.

The transfer of the Division of Biometry from the Department of Botany to the Department of Preventive Medicine and Public Health is of distinct advantage to the teaching program in public health and is providing for the staff of the Division of Biometry a stimulating and valuable outlet for their work.

Cancer Institute.—The work of the Cancer Institute has been reorganized and enlarged by the establishment of a Cancer Institute Committee which includes representatives from all departments of the Medical School that are concerned with cancer diagnosis, treatment, and research. This enlarged program has been supported by a three-year grant of \$9,000 annually from the Citizens Aid Society. This provides for assistants in radiation therapy and in the radiologic diagnosis of cancer, for a social worker for the follow-up of cancer patients of the tumor clinic, for Cancer Institute fellows in surgery, pathology, and in roentgen diagnosis and therapy, and for a small fund for cancer research and cancer education. In addition during the past year, the Citizens Aid Society has made a supplementary grant of \$7,300 to the Cancer Institute for the purchase of a third X-ray therapy machine. This generous support of the work of the Cancer Institute is most gratifying and is enabling us to improve the treatment of patients with cancer, the education of physicians about cancer, and the research which is being conducted in the cancer field. Within the past few months, our Cancer Institute has been approved by the National Advisory Cancer Council of the United States Public Health Service as a training center for specialization in cancer work. Up to the present time three physicians have been granted stipends, upon our recommendation, for three years' graduate work in cancer diagnosis and treatment.

Floyd B. Olson Cancer Research Fund.—The last Legislature voted \$25,000 as an endowment for cancer research in memory of former Governor Floyd B. Olson. This money was received by the University and has been invested according to the terms of the appropriation. Within the next year there will be some income from this fund available for cancer research. Although exceedingly valuable as a beginning, this fund should be supplemented if it is to provide sufficient income for the support of a significant cancer research program.

The Haydn S. and Mary M. Cole Fellowship in Orthopedic Surgery.—It has been most gratifying during the past year to receive a gift of \$25,000 from Mr. and Mrs. Haydn S. Cole for the endowment of a much needed fellowship in orthopedic surgery. This gift represents a lasting monument to the vision and the public service of the donors.

Human Serum Laboratory—John Dwan Fund.—A splendid gift of \$10,000 was received from Mrs. John Dwan for the establishment of a human serum laboratory in memory of her husband, John Dwan. This laboratory will be engaged primarily upon research concerning the value and methods of preparation and distribution of human convalescent serum, but it will also render a great service to the people of the state by making human convalescent serum available for the treatment or prevention of those diseases for which its value has been established.

The Elias P. Lyon lectureship.—Upon his retirement as dean of the Medical School, Dr. E. P. Lyon's many friends contributed \$3,050 to a fund for the endowment of a Medical School lectureship in memory of Dean Lyon. This fund has been invested and the lectureship will be inaugurated as soon as the income permits.

Research on normal individuals.—Beginning in 1937-38, a significant co-operative teaching and research project was inaugurated between the Department of Physical Education and Athletics for Men and the Department of Physiology. The teaching is primarily of general physiology and the physiology of exercise for students majoring in physical education, but in addition, a number of graduate students are carrying on advanced work in this important field. The research part of the program is unique in that it is fundamentally research concerning the physiology of activity in the normal individual.

Postgraduate medical teaching.—If the function of a medical school is to provide qualified physicians for the practice of medicine among the citizens of the state, it is essential that the program of medical education be continued beyond the period of graduation from the medical school. If this is not done most physicians become definitely "behind the times" in a few years. A unique opportunity for this Medical School to offer a program of continuing education for the physicians of the state was provided during this biennium with the opening of the Center for Continuation Study. Fourteen institutes of one week each have been offered under the direction of Dr. W. A. O'Brien. The attendance and the interest of physicians have been most encouraging. These subjects have been presented: Traumatic Surgery (given twice), Obstetrics and Gynecology, Pediatrics, Internal Medicine, Roentgenologic Diagnosis (given twice), Diseases of the Heart, Surgical Diagnosis and Treatment, Dermatology and Syphilology, Ophthalmology and Otolaryngology, Medical Diagnosis and Treatment, Endocrinology, and Proctology and Diseases of the Bowel. The instructional staff is made up in part from members of the full-time medical faculty, in part from the part-time members of our clinical faculty, and in part from the staff of the Mayo Foundation. The 373 physicians who have attended the institutes have expressed themselves as feeling that this type of work is exceedingly valuable to physicians in practice.

In view of this encouraging beginning, we have felt that we should develop still further this type of program and in order to do so, filed application with the Commonwealth Fund for a special grant to aid in its development over a period of several years. This request has been approved, making available for this purpose \$10,000 for each of two years, \$8,000 for a third year, \$6,000 for a fourth year, and \$3,000 for a fifth year. This will enable us to appoint Dr. O'Brien as director of postgraduate medical education to study the types of courses which best meet the needs of the physicians of this region and to supplement our teaching staff with specialists from other parts of the country. I firmly believe that we can develop here a center of postgraduate medical education that will be one of the most important aspects of our Medical School program.

Hospital facilities.—The University of Minnesota Medical School is fortunately situated so far as the provision of hospital facilities for clinical teaching is concerned. Because of the co-operation of the Minneapolis General Hospital and the Ancker Hospital in St. Paul, it has not been necessary for the University itself to maintain as large a hospital as would otherwise be required. In fact the state support for the university hospitals of Iowa, Wisconsin, and Michigan is from two to four times as large as the corresponding appropriation in Minnesota.

As soon as possible the east wing of the hospital should be completed and an administration building to house the laboratories, offices, kitchens, and other service units in the institution should be constructed. Because of the gradual growth of the present institution the service units are scattered throughout the building in a manner that is inefficient and uneconomical.

Minneapolis General Hospital.—The University's relations with the Minneapolis General Hospital have been most satisfactory and mutually advantageous. Senior medical students receive part of their clinical instruction in this hospital with members of the University Medical School faculty in charge of the teaching and clinical care of patients. This makes for excellent medical service for the patients and contributes to the training of physicians who will serve the people of this community and state.

Medical research.—The continued annual appropriation of \$25,000 by the legislature for medical research makes possible the support of valuable medical research by the members of the faculty. All requests for support from this fund are critically studied and carefully considered by the Graduate Medical Committee and grants are made by the dean of the Graduate School upon the recommendation of this committee. The scientific work which this grant makes possible is evidenced by the list of publications of the medical faculty. A serious handicap with which we are faced in this connection, however, is that the grant is too small to support all of the worth-while projects for which support is requested. When this appropriation was first made eleven years ago it was reasonably adequate, but with the development and increased scientific activity of the medical faculty it has become necessary to deny approximately half of the requests submitted.

Study of medicinal value of native American plants.—The United States Department of Agriculture is interested in the careful scientific study of certain American plants—particularly from the Southwest—which the Indians have been using for medicinal purposes. It therefore appointed Dr. Raymond N. Bieter, associate professor of pharmacology, to take charge of this work, and has arranged to provide him with support to the extent of \$8,000 a year. This work is now under way and already interesting results have been obtained.

Anesthesia.—The appointment of a full-time staff member to the anesthesia service of the University of Minnesota Hospitals and to the instruction of medical and graduate students concerning anesthesia marks a definite forward step. The administration and the study of anesthesia has become such an exceedingly important and specialized field that it merits the attention which it is possible to give to it only under the new arrangement which we have set up.

Physical therapy.—The use of physical agents, such as ultraviolet light, massage, exercise, diathermy, baths, etc., is an important but a greatly neglected field of medicine. Several years ago we set up an experimental project to study fever therapy. The results of this have been gratifying and under the direction of a committee and a full-time instructor, it has been possible gradually to expand these activities into the general field of physical medicine.

Graduate medical education.—Graduate medical education in connection with the Medical School and the Mayo Foundation of the University of Minnesota has been developed to a point of definite leadership in this field. For some years the number and quality of graduate students have been steadily increasing, and with the new requirements being set up by qualifying boards in the various specialties, we must look forward to a continuing and increasing demand for this type of training. The better training of specialists is in the public interest and constitutes an important function for a state university. However, if graduate medical training at the University of Minnesota is to be expanded beyond its present status, additional laboratory facilities and teaching staff will be necessary.

Future plans and needs.—The Medical School is in a better position than ever before to perform well its primary function of training physicians for this commonwealth. Looking forward into the second half century of its existence it is essential

not only that the present standards of medical and scientific work be maintained, but also that these be advanced as necessary to keep abreast of the rapid progress which is being made in scientific medicine.

Among the more specific needs for the future which can be foreseen at the present are the following:

1. *Increases in staff.*—Some increase in the budget should be provided for further development of the staff. This is needed particularly in order to make possible the advancement of some of the able younger members of the staff; to put the major responsibility for the teaching and the hospital service in ophthalmology and otolaryngology on a full-time basis as has been done in other departments; and to provide a teaching staff in surgery at the Minneapolis General Hospital.

2. *A teaching museum for anatomy and pathology.*—The lack of an adequate museum for teaching purposes is a definite handicap to the work in anatomy and pathology. In 1919 this was listed as one of the urgent needs of the Medical School. This need, still unfulfilled, has become increasingly urgent. The building to house this museum should complete the Anatomy-Pathology Building, and provide in addition to the museum some sorely needed laboratories for both graduate and undergraduate teaching in anatomy and pathology.

3. *Research in mental and nervous diseases.*—The greatest medical and health problem of today is the prevention and treatment of mental disorders. At present the state is spending over two and a half million dollars each year for the care of patients with mental and nervous diseases. In addition to this the cities of Minneapolis and St. Paul have sections of their general hospitals set aside for these patients, and many families are sorely burdened with the care of still other patients in their homes. In spite of all this, no funds are being appropriated for the study of the prevention or cure of these diseases. The most hopeful approach to these problems lies in co-operative research between the specialists in nervous and mental diseases and the research physiologists and psychologists. Epilepsy, dementia praecox, and other types of mental and nervous diseases should be the subject of an active research program adequately supported over a considerable number of years.

4. *Administration building for University of Minnesota Hospitals.*—The hospital has grown from the original small Elliot Hospital to its present size by the addition of one unit after another, with the result that administrative offices, kitchens, laboratories, classrooms, doctors' offices, and service departments are scattered throughout the institution in a manner that makes efficient administration and operation exceedingly difficult and expensive. This should be corrected by the construction of a central administration building to house these activities and to release space now occupied by them for patient use.

5. *Additional funds for medical research.*—The present funds for general medical research are inadequate to support the work of a staff which has increased materially both in size and in scientific activity since the amount of the present appropriation was fixed.

6. *Support for graduate medical education.*—An increasing number of physicians are requesting opportunities to carry on graduate work in medicine as preparation for the practice of specialties. This is in the public interest but to meet this need it will be necessary to supplement the present laboratory facilities and faculty of the Medical School.

7. *Field training center in public health.*—Adequate training for physicians, engineers, and nurses in public health requires observation of the work of existing health agencies and participation in their programs. The provision of opportunities for such practical training is an urgent need of the Public Health Training Center.

Summary.—The Medical School of the University of Minnesota at the end of the first half century of its existence is discharging creditably its responsibilities to the citizens of the state and is in a position with reasonable continuing support to perform even more distinguished service in the future.

Respectfully submitted,

HAROLD S. DIEHL, *Dean of Medical Sciences*

SCHOOL OF NURSING

The School of Nursing submits reports for the biennium July 1, 1936 to June 30, 1938.

Curriculum.—The curriculum of the School of Nursing shows integration into larger units, increase in amount and variety of types of instruction, important additions in types of practice and instruction, and improved sequence.

The combinations of materials from smaller courses into larger units with addition of new subject-matter, elimination of repetition, and an improved organization include: (1) integration of metrology with nursing arts; (2) integration of ethics into nursing arts and other courses and experiences; (3) integration of pathology into "Introduction to Medical Science"; (4) integration of dermatology with medical and surgical nursing. Integration of medical with surgical nursing and certain subdivisions of each has continued and met with the approval of teachers, doctors, and students. Combinations of related units with clinical practice of students include that of venereal clinic with assignment to practice. The course in Comparative Nursing Procedures has been increased in hours and credit. Addition of laboratory work to the course in Ward Administration has made this experience available as an elective. The course, Introduction to Medical Science, is an addition.

Psychiatric nursing has been added to the list of types of experience for students. Increasing difficulty is experienced in finding opportunity for field training in public health nursing. Another acute problem is that of teaching and supervision in the pediatric departments in the University of Minnesota Hospitals and at the Minneapolis General Hospital. Only one supervisor is employed in each hospital and the ratio of graduates to students is far too low either for the best care of patients or for learning by students.

The Institute of Child Welfare has made available the services of graduate students who have conducted classes on certain phases of child psychology in both pediatric departments and has repeated these offerings as required by the rapid turnover of student personnel.

Faculty.—The members of the faculty in the School of Nursing have been active in improving their own preparation for their positions. Of the 33 nurse members who are actively engaged in teaching, 28 have been carrying some kind of university work. The program for the University of Minnesota Hospitals has consisted of monthly classes, each department responsible for one meeting. Some member of each department has given a discussion on new developments in his particular field. The program of staff education for the Minneapolis General Hospital has consisted of demonstrations, lectures—largely discussions of hospital problems—some moving pictures, and slides.

Work on improvement of proficiency record.—Much of the staff effort of the year has been directed toward the improvement of the scales rating students' efficiency in practice. Supervisors in all departments have directed study, observation, and discussion of the problems in this field, and beginnings of a new method of recording quality of students' practice have been made.

Sigma Theta Tau.—Sigma Theta Tau, a national scholarship society, has continued to grow in membership and activity.

Alpha Tau Delta.—Alpha Tau Delta, the national sorority for five-year nursing students, has raised its scholarship requirement for membership. The local chapter has raised the amount of the scholarship fund which it awards to a worthy student each year from \$50 to \$100.

Part-time duty.—Part-time positions open to graduate nurses have enabled them to earn maintenance and a small salary while attending the University. Sixteen thirty-six-hour positions at the University of Minnesota Hospitals have been kept filled almost constantly as have four positions of a twenty-one-hour week. At the Minneapolis General Hospital, two or three part-time positions are occupied by graduate nurses and approximately twelve ward secretaryships have been used as part-time positions chiefly by five-year students in the preclinical portion of the course.

Graduate staff nursing and non-nursing personnel.—Increases in graduate nursing staff and non-nursing personnel have lightened the load of nursing students but the hours of nursing care per patient per day should be further increased. The total staff nurses at the University of Minnesota Hospitals number 80; at the General Hospital, 66; at the Miller Hospital, 55; representing increases of 10, 8, and 5, respectively.

Nurses' residence.—The nurses' residence at the University of Minnesota Hospitals was named "Louise M. Powell Hall" by the Regents on the recommendation of the Alumnae Association and other groups.

Richard Olding Beard lectureship.—Louise M. Powell presented a history of the School of Nursing as the Richard Olding Beard lecture in 1936. Alma Haupt, alumna, was chosen to give the lecture in 1937, on "Adventures in Nursing."

Respectfully submitted,

LUCILE PETRY, *Acting Director*

PUBLIC HEALTH NURSING

The following report for Public Health Nursing in the Department of Preventive Medicine and Public Health compares the biennia 1934-36 and 1936-38.

| | 1934-36 | 1936-38 |
|---|---------|---------|
| Students enrolled | 456 | 654 |
| Students earning degrees | 27 | 63 |
| Students earning certificates (not having degree) | 69 | 22 |

Students from twenty states have been enrolled in the Public Health Nursing Course during the biennium.

The expansion and development of the Department of Preventive Medicine has opened new opportunities to the public health nurses and has placed the public health nursing course in its proper position in respect to the whole public health program. The new courses offered to health officers are open to public health nurses. This enriches the curriculum, and gives the public health nurses an opportunity to share in the education and thinking of the other public health groups. Similarly the co-ordination of the courses in the one department will make it possible to orient the health officers and public health engineers to the relationship of public health nurses to the whole public health program.

Curriculum changes.—The curriculum leading to a B.S. degree with a major in public health nursing has been revised to allow more freedom in choice of courses, and several new courses have been established for public health nurses. A curriculum for public health nurses who do not wish a teacher's certificate has been established in the Medical School. This differs from the revised curriculum approved by the College of Education only in the education requirement. Those students who wish a high school teaching certificate will register in the joint curriculum of the College of Education and the School of Medicine and will comply with all College of Education requirements.

The State Board of Education has established a special high school teacher's certificate in health education. This is much more satisfactory for public health nurses than the certificate in general science which was the only one for which public health nurses could qualify up to this year. The curriculum accepted for this certificate differs little in its requirements from those that this department feels are necessary for preparation for school nursing.

The certificate in public health nursing has been continued for students who already have a Bachelor's degree.

Field work.—Field work for students has, as usual, been the most difficult problem. There are not sufficient practice fields to meet the needs of the present large enrolment. Every effort has been made to expand these facilities and to use the present fields to their capacity. A new field has been started in Des Moines, Iowa, but as yet only eight students a year can be cared for in that area. The situation is acute as field work cannot be promised to students even when they plan to stay a year at the University and request it as much as three quarters in advance. Supervised field work under university auspices is probably the most important part of a public health nurse's education. It would seem, therefore, that the enrolment should be limited to the number who can be placed in practice fields. This, however, presents serious difficulties, as the demand at present for trained public health nurses far exceeds the supply and the University of Minnesota is one of the training centers for public health personnel subsidized by the United States Public Health Service. The establishment of a rural training center would partially solve the problem and would also give more satisfactory experience to nurses who are interested mainly in rural work. Plans for such a center were drawn up in collaboration with the State Department of Health but as yet no funds have been secured for its establishment.

Respectfully submitted,

MARGARET G. ARNSTEIN, *Director*

UNIVERSITY OF MINNESOTA HOSPITALS

I present the report of the University of Minnesota Hospitals for the years 1936-37 and 1937-38.

In-Patient Department.—The number of patients admitted for the year 1936-37 was 9,216 and for the year 1937-38, 9,186. The decrease was due to the reduction in number of Health Service patients from 1,060 in 1936-37 to 896 for the past year.

The total number of days of hospital treatment in 1937-38 aggregated 132,262 as compared with 129,871 the previous year—an increase of 2,391.

The average number of days per patient stay in the hospital for 1937-38 was 14.2 as compared with 13.8 the year before. Deaths for 1937-38 numbered 477 as compared with 478 for the preceding year. The percentage of post-mortems obtained for 1936-37 was 66.1 and for 1937-38, 68.5. The daily average number of patients was 362 for 1937-38 as compared with 356 for the previous year. The highest daily census was 418 in 1937-38 as compared with 404 for the previous year. The surgical operations performed during 1937-38 aggregated 6,284 as compared with 6,161 in 1936-37.

Out-Patient Department.—The number of visits to the Out-Patient Department aggregated 96,082 in 1937-38, an increase of 1,700 over the 94,382 visits of 1936-37.

Financial.—An examination of Table II reveals a net operating balance of \$14,525.95 for 1937-38 as compared with a balance of \$5,675.18 for the previous

THE PRESIDENT'S REPORT

TABLE I. COMPARATIVE TWELVE-MONTH REPORT OF
IN-PATIENT DEPARTMENT

| | 1936-37 | 1937-38 |
|--|---------|---------|
| Total patients admitted | | |
| Pay | 835 | 894 |
| Per diem | 904 | 942 |
| Free | | |
| Eustis Hospital | 433 | 315 |
| Teaching and research | 245 | 215 |
| Charity | 461 | 391 |
| Staff | 303 | 248 |
| County | 4,906 | 5,091 |
| Health Service | 1,060 | 896 |
| Psychopathic | 50 | 131 |
| Pay | 7 | 31 |
| Per diem | 12 | 32 |
| Total | 9,216 | 9,186 |
| Total days hospital care | | |
| Pay | 7,884 | 8,961 |
| Per diem | 9,423 | 11,081 |
| Free | | |
| Eustis Hospital | 10,616 | 9,851 |
| Teaching and research | 3,025 | 2,553 |
| Charity | 5,020 | 4,836 |
| Staff | 2,170 | 1,754 |
| County | 84,752 | 80,259 |
| Health Service | 5,356 | 4,907 |
| Psychopathic | 1,625 | 6,339 |
| Pay | | 865 |
| Per diem | | 856 |
| Total | 129,871 | 132,262 |
| Average days per patient | | |
| Pay | 9.4 | 10.0 |
| Per diem | 10.4 | 11.7 |
| Free | | |
| Eustis Hospital | 24.5 | 31.2 |
| Teaching and research | 12.3 | 11.8 |
| Charity | 10.9 | 12.3 |
| Staff | 7.1 | 7.0 |
| County | 17.3 | 15.7 |
| Health Service | 5.1 | 5.4 |
| Psychopathic | | |
| Pay | | 27.9 |
| Per diem | | 26.7 |
| Average length of stay per student | 13.8 | 14.2 |
| Daily average number of patients | | |
| Pay | 21.6 | 24.5 |
| Per diem | 25.8 | 30.3 |
| Free | | |
| Eustis Hospital | 29.1 | 26.9 |
| Teaching and research | 8.3 | 6.9 |
| Charity | 13.8 | 13.2 |
| Staff | 5.9 | 4.8 |
| County | 232.2 | 219.9 |
| Health Service | 19.6 | 17.9 |
| Psychopathic | | |
| Pay | | 2.4 |
| Per diem | | 2.3 |
| Daily average census for entire hospital | 356 | 362 |

year. The increase in cost of operation for the year 1937-38 over the previous year was 11.1 per cent. During 1937-38, an addition of \$61,840 was made in salaries and wages, an increase of 19 per cent over 1936-37. Patient days during this period increased 1.9 per cent and out-patient visits increased 1.8 per cent. The per diem cost based on charging against the in-patients the full cost of maintenance excluding the Out-Patient Department was \$4.76 for 1937-38 as compared with \$4.34 for the previous year. The cost per out-patient visit for 1937-38 was \$1.21 as compared with \$1.16 for the previous year.

TABLE II. STATEMENT OF INCOME AND EXPENDITURES

| | 1936-37 | 1937-38 |
|--|---------------------|---------------------|
| Cash balance, beginning of fiscal year | \$ 20,413.43 | \$ 16,654.01 |
| County | 389,735.59 | 392,429.72 |
| Eustis Fund | 40,000.00 | 40,000.00 |
| Per diem | 166,842.82 | 180,418.38 |
| Other | 56,895.49 | 104,292.88 |
| Psychopathic Department | 16,000.00 | 62,519.35 |
| Total | \$689,887.33 | \$796,314.34 |
| Expenditures | 673,233.32 | 747,387.42 |
| Cash balance | 16,654.01 | 48,926.92 |
| Obligations | 10,978.83 | 34,400.97 |
| Free balance | 5,675.18 | 14,525.95 |
| Salaries | 317,026.97 | 378,865.36 |
| Expenses | 318,252.24 | 335,609.23 |
| Equipment and buildings | 18,473.95 | 15,446.01 |
| Fuel | 19,480.16 | 17,466.82 |
| Total | \$673,233.32 | \$747,387.42 |

General remarks.—In the In-Patient Service the largest number of hospital days care ever given by the hospital was during 1937-38. This is also true of the Out-Patient Department which experienced the greatest number of patients' visits in its history. The county waiting list has been reduced from 682 on July 1, 1937, to 603 on July 1, 1938.

For the year 1936-37 the X-Ray Department gave a total of 27,310 services; for the year 1937-38, 28,720. The laboratory of the In-Patient Department gave 114,037 services as compared with 100,261 for the previous year.

The Physical Therapy Department showed a slight decrease in the number of services, 10,172 being the number of the services for the year 1936-37 and 9,991 for the year 1937-38.

An increase in the number of services given was noted by the X-Ray Therapy Department: 7,182 treatments in 1936-37 and 7,912 in 1937-38. This department has been badly handicapped in previous years because of the demand for the increase in number of treatments. Through the generosity of the Citizens Aid Society a new 220 KV apparatus is now being installed which will double the capacity and prevent long waits for service.

In April, 1937 the new ward for the accommodation of psychopathic patients was completed and opened.

Respectfully submitted,

RAY M. AMBERG, *Superintendent*

SOCIAL SERVICE DEPARTMENT OF THE UNIVERSITY OF
MINNESOTA HOSPITALS

The Social Service Department of the University of Minnesota Hospitals submits the following report for the biennium 1936-38.

Service to the patients: medical social case work.—During this period the department averaged 7.87 case workers who rendered medical social case treatment to 2,739 patients. Medical social work departments classify their cases into intensive, slight service, and steering, depending upon the relationship between sickness and environmental maladjustment, and the responsibilities of nonmedical and medical social agencies participating in the patient's care. The terms were defined in my report for 1934-36.

Following is the intake of cases during the biennium grouped under these three types, excluding cases carried over from each previous year or closed and reopened within the year:

| | INTENSIVE | SLIGHT SERVICE | STEERING SERVICE | TOTAL |
|--------------|-----------|-------------------|---------------------|-------|
| 1936-37..... | 335 | 535 | 224 | 1,094 |
| 1937-38..... | 390 | 541 | 222 | 1,153 |

The total number of new cases and old reopened cases—those previously treated prior to the year under consideration—was 2,274, making a monthly intake of 93.66 for the department, and 11.90 for each staff worker.

The sources from which these 2,247 patients were referred to the Social Service Department were as follows: 764 (34 per cent) by the Out-Patient Department physicians; 578 (25.72 per cent) by university hospital physicians; 94 (4.2 per cent) by the hospital administration; 146 (6.5 per cent) by the hospital Social Service Department; 30 (1.33 per cent) by the department of nursing; 70 (3.11 per cent) by patients and relatives; and 565 (25.14 per cent) by social agencies and nursing organizations.

The total number of cases carried each month averaged 381.21 for the department and 48.50 for each staff worker. Many cases are active from six months to a year during which time the problems may change. Especially is this true of patients whose medical prognosis is poor and whose social environment is inadequate.

Unrecorded social services.—While a medical social study and analysis is necessary as an approach to treatment on a case work level, and 2,739 patients required this care, there were many others who needed the assistance of a medical social worker for one or two definite services and for whom no further responsibility was assumed. These unrecorded units of social care shown in the tabulation are obviously a service to the hospital and the community as well as to the patient:

| | 1936-37 | 1937-38 |
|--|---------------|---------------|
| Reports to other social agencies and nursing organizations..... | 1,188 | 1,595 |
| Directed to other agencies for social care..... | 120 | 88 |
| Referred to University of Minnesota Hospitals regarding outpatient fees..... | 142 | 125 |
| Advice or interpretation to patient or family | | |
| By conference..... | 3,210 | 4,100 |
| By letter..... | 1,080 | 1,365 |
| By visit..... | 10 | 14 |
| Discharge arrangements of hospital patients..... | 3,953 | 4,008 |
| Board and room arrangements for clinic patients..... | 2,197 | 880 |
| Nursing home arrangements for clinic and hospital patients..... | | 305 |
| Transportation..... | 926 | 331 |
| Total | 12,826 | 12,811 |

The increase in reports to social agencies resulted from requests for information from county welfare workers. The increase in letters to patients and their families was due partly to difficulties of travel which prevented inquiry by interview, and partly to new policies. The great drop in board and room arrangements in 1937-38 followed an improved method of handling the simple cases. In order to conserve hospital beds, more sick patients have been placed in nursing homes than heretofore. It seemed best to segregate them from the board and room placements and to give them more careful social supervision. This was done on July 1, 1937. In 1937 responsibility for transportation arrangements for patients was turned back to the county of residence so that only the occasional patient who presents a true emergency is now referred to us.

Educational services.—The department has furnished field work training to four or five medical social work students each quarter except summers, has given two lectures to medical students and two to student nurses. In addition, a medical social work student from Finland was sent through the Rockefeller Foundation for a month of intensive study of medical social work at the University of Minnesota Hospitals. She plans to teach and to direct medical social work practice upon her return to her own country.

Many new problems have confronted us in relation to the application of the Social Security Program to our local organization. Considerable time has been spent in working out policies with the Division of Services to Crippled Children, the Division for the Blind, and the county welfare boards that administer aid to dependent children, old age assistance, and other forms of public aid including arrangements for medical care in those counties in which the county commissioners have turned over this responsibility.

One of the most interesting developments of the biennium has been the growth of social work in connection with the neuropsychiatric service, and one of the most valuable educational opportunities has been attendance by the department head and two staff workers, at the weekly neuropsychiatric conferences.

Respectfully submitted,
FRANCES M. MONEY, *Director*

SCHOOL OF DENTISTRY

To the President of the University:

SIR: I submit the following report of the School of Dentistry for the biennium 1936-38.

Admission.—The requirements for admission to the four-year course in dentistry remain essentially as they have been for the past decade and consist of a minimum of two years of college work with specific requirements in English and the three sciences of chemistry, physics, and zoology. As a result of studies made during the past four years by the Board of Admissions, the acceptance of students is based upon their scholastic records and those other mental and physical aptitudes for scientific work and the acquiring of skill in dental work which are expected of the general practitioner in the dental profession.

The curriculum.—The new four-year curriculum is now a requirement for all entering students. It conforms to the courses of study recommended by the American Association of Dental Schools and state boards of dental examiners. Additional time for the essential medical sciences and for clinical dentistry is provided beyond that which was available in the three-year course. Furthermore, the student will receive a better balanced and more complete course of instruction.

Graduate courses.—Graduates in dentistry may now qualify for registration in the Graduate School of the University and pursue courses leading to the degree of master of science in dentistry. A special bulletin, available from the office of the Graduate School, gives information regarding graduate courses and credits in oral pathology, oral surgery, orthodontia, periodontia, and restorative dentistry. The consummation of this plan of graduate work for a Master's degree marks a distinct and important forward step in dental education at Minnesota. It provides an opportunity for capable persons to prepare for specialization in practice or for a career in dental teaching and research. Two fellowships also have been provided for the first time by the Carnegie Corporation of New York, for the purpose of assisting properly qualified students to undertake graduate and research work. The University and the Mayo Foundation have also made available financial assistance for students in graduate courses.

Refresher courses.—The refresher courses offered at frequent intervals for practitioners have been continued and will be offered whenever there is a demand for them. Sixty-two such courses have been offered during the past twenty years. During the biennium, six such courses have been conducted and were well attended.

Research.—The faculty, working with a limited personnel and with limited financial resources, have continued their work on a number of research problems. Published reports concerning their studies have been issued and are listed in the *Publications of the Faculties, University of Minnesota*, for the biennium. Plans are going forward and funds have been provided by the University to establish, during the coming year, a special clinic for the clinical and laboratory study of the dental problems of children. The School of Dentistry and the Department of Pediatrics, together with consultants from other departments, are jointly undertaking this important study which will be watched with unusual interest by the dental and medical professions.

School for Dental Hygienists.—The enrolment in the two-year course for dental hygienists continues to increase. Since 1919, the University has offered this course and the graduates have been rather successful in their field of work. Various institutions are offering courses of one year in length, others two years, and now two have announced four-year courses leading to a bachelor of science degree. At the invitation of the School of Dentistry, the University Committee on Educational Research is to make a study during the coming year of the various questions involved in the field of dental hygiene, with special reference to the length and content of the curriculum and the opportunities open to graduates.

Respectfully submitted,

WILLIAM F. LASBY, *Dean*

COLLEGE OF PHARMACY

To the President of the University:

SIR: I submit the following report of the College of Pharmacy for the biennium 1936-38:

Enrolment.—Undergraduate: In 1936-37, 174 undergraduate students were enrolled in the College of Pharmacy, (156 resident and 18 nonresident); in 1937-38, 167 (151 resident and 16 nonresident). Greater selectivity among applicants for admission was thought to be responsible, in a rather large measure, for this decrease in enrolment. The production of quality graduates is our first concern. It is a responsibility vested in us by those who will be served professionally by our graduates. Success in our endeavors is predicated upon the moral standards and intellectual capacities of those whom we accept for professional training. A continuously improving pharmaceutical service must be made available and one of the most cogent factors necessary to its accomplishment is the careful selection of student material.

Graduate.—During the biennium there has been a large increase in the number of graduate students taking work in the College of Pharmacy. In the spring quarter, 1935-36, 9 students were registered for graduate courses. In the spring quarter, 1937-38, 19 students were pursuing graduate study. This is gratifying because, even if it is our primary function to educate young men and women to render a high grade pharmaceutical service to physicians and the public, the advancement and progress of any profession is dependent upon the contributions of its researchers.

Curriculum.—Study of the curriculum of the course in pharmacy showed that certain changes were desirable. Based upon the *Pharmaceutical Syllabus and Charters' Basic Material for a Pharmaceutical Curriculum*, it was evident that our curriculum was lacking measurably in balance and scope. To conform to the modern trend in education, viz. to adapt courses of study to anticipated student needs rather than have students conform to the courses of a fixed and rigid curriculum, greater flexibility was needed. These and other considerations have resulted in a revision of the four-year curriculum in pharmacy. It will become effective with the fall quarter, 1938-39. The revised curriculum is believed to be an improvement for these reasons: (1) the proper evaluation of clock hours of laboratory and didactic training has reduced the 232 quarter-credit hours required for graduation to 188; (2) the numbering of the professional practices has been simplified and now conforms to the general university practices; (3) the number of clock hours devoted to inorganic pharmaceutical chemistry, organic pharmaceutical chemistry, pharmacognosy, dispensing, and manufacturing pharmacy are in closer conformity with the *Pharmaceutical Syllabus*, and better balance has been attained; (4) the revision permits students to select academic and professional electives best suited to prepare them for the particular phase of the pharmaceutical service in which they intend to engage; (5) new courses have been introduced that are intended to train students in newly developed fields of pharmaceutical activity; (6) there has been improvement of all course sequences; (7) a better distribution of credit hours throughout the four years of study is achieved, i.e., first year—46; second year—47; third year—49; fourth year—46; (8) there is a better allocation of subject material, thereby preventing undesirable overlapping and waste of time.

Beginning with the fall quarter, 1938-39, the College of Pharmacy and the School of Business Administration will offer an optional combined five-year course

in pharmacy and business administration, leading to the degrees of bachelor of science in pharmacy and bachelor of business administration. This optional course is open only to students who register in the College of Pharmacy, with or without advanced standing, and can present evidence of better than average ability. Students in this course of study must take the professional and business administration courses in the sequences in which they are offered. This optional five-year combined course does not involve relinquishing any quarter-credit hours of professional pharmaceutical work.

Building and equipment.—During the biennium the following changes have been made in the Pharmacy Building: (1) a combined office and research laboratory was provided in the basement; (2) the basement stockroom was rearranged; (3) a balance room was constructed on this same floor; (4) alterations made in the stockroom on the third floor provided a small office and research laboratory for a faculty member, and work space available for two additional graduate students; (5) changes in the laboratory desks in the analytical laboratory doubled the number of laboratory desk lockers. This alteration has made it possible to accommodate two laboratory sections instead of one; (6) indirect lighting fixtures were installed in the main lecture room; (7) lighting facilities in the library and administrative offices were improved; (8) the office of the dean was remodeled and refurbished; (9) steel cupboards and storage cabinets taken from item 8 were installed in laboratories and offices where needed; (10) laboratory table tops in sophomore and junior laboratories were treated with acid-alkali and solvent-proof finish; (11) minor changes were made in the conservatory and laboratories.

To make the work offered in some courses compare favorably with work given in other institutions, some major pieces of equipment were purchased: pill coating drum, mechanical mixers, granulators, multiple punch tablet machine, Barnstead Soxhlet Extractor, drug mills, filter presses, and electric ovens. In addition, much needed equipment for graduate students and faculty research was provided. During the biennium, it has been possible to reduce the quantities of standard laboratory equipment (beakers, flasks, etc.) and supplies (chemicals, drugs, etc.) carried in the pharmaceutical stockrooms, which has increased the turnover in these items and prevented loss due to age and deterioration.

More than ever, during the past biennium, have we realized the inadequacy and nonavailability of space in the present building for offices, lecture rooms, and laboratories. I believe it to be a matter of only a few years until it will become necessary to have an addition to the present building if we are not to be seriously handicapped in our efforts to give thorough undergraduate instruction and to contribute our share to the progress of the health sciences through research.

Library.—A complete inventory (1936-37) shows approximately 5,700 bound and 2,500 unbound volumes in the pharmaceutical working library, with an estimated value of \$29,375. This library is of inestimable value to faculty, undergraduate and graduate students, practitioners of pharmacy, and the laity. The availability of its volumes is an inducement to our students to use it frequently. The members of every entering class are instructed in its proper use. A survey for the academic year 1937-38 reveals that the library has been used for a total of between three and four thousand undergraduate student hours, which, with an enrolment of 167, we believe is evidence of need and usefulness. There is no way to estimate the use by graduate students and faculty. Exhibits of incunabula and new books are made from time to time.

Medicinal plant gardens.—The value of knowledge about medicinal plant cultivation to the pharmacist is so obvious that no comment is needed. The collection,

preparation, and preservation of vegetable drugs, together with a study of their macroscopic and microscopic characteristics, constitute part of the student's necessary pharmacognostic training. The medicinal plant gardens supply the material for this work and also permit us to raise plants whose therapeutic properties are unknown and should be the subject of graduate research. The need of such research is evidenced by the existing agreement between the Bureau of Plant Industry and the University of Minnesota. Because of familiarity with Minnesota soils and their adaptability to the cultivation of medicinal plants, our service to agriculturalists of Minnesota is increasing year by year.

The total area of the medicinal plant gardens is 2.6 acres. The area covered by glass is 6,500 square feet; by slat houses, 1,935 square feet; by laboratories, sheds, workroom, etc., 5,945 square feet. From 15,000 to 25,000 plants are grown annually and these represent 492 plant species. Out of 230 recognized U. S. Pharmacopoeial and National Formulary drugs, 130 of the most important are raised in the garden. The gardens should be expanded to at least four acres, and the greenhouses and sheds located on University Avenue should be repaired to make them safe and adaptable for flattening and potting preparatory to transferring to the gardens.

Special lecturers.—In order that students may have the opportunity to hear men who have distinguished themselves professionally, a number of outstanding guest-lecturers have been invited to appear before the student body. Not infrequently, registered pharmacists in or near the Twin Cities attend these lectures. There were twelve guest lecturers during the biennium.

Graduate study and faculty research.—The importance and value of any profession to social and economic life has been and always will be adjudged, first, by the quality of service that its practitioners render and, second, by the contributions of those who are searching for new facts or elaborating upon those already at hand. I am of the opinion that in Minnesota there is available a pharmaceutical service which is adequate, in so far as the compounding and dispensing of prescriptions are concerned, to meet the demands that are being made upon it at the present time. However, the demands by physicians and laymen for a service of much greater scope are increasing continuously and the curricula of our schools and colleges must be changed and strengthened so that our graduates will be prepared to meet them. As indicated earlier, we have tried to do this, and by so doing, prepare the pharmacists of a few years hence to discharge their professional responsibilities competently. In pharmacy, as in all other professions, the educational institutions should be the dynamic centers from which the results of pure and applied researches emanate.

Contrary to general opinion, workers in the pharmaceutical fields have made many and distinguished contributions to the progress and advancement of the health sciences. These works have become so voluminous that it has been necessary for the Council on Pharmaceutical Research to co-ordinate and index them in the *Annual Survey of Research in Pharmacy*, a volume that reflects creditably upon pharmacy. The third edition covering the researches of 1935-36 has been released recently. Before 1936, pharmaceutical research at the University of Minnesota did not realize its full possibilities because the staff was undermanned and the facilities for research were limited. During the biennium 1936-38, much needed research equipment was provided and the general teaching load was somewhat reduced by the addition of one instructor. All members of the academic personnel of the College of Pharmacy have been working on at least one research project.

Pharmaceutical institutes.—The opportunity for post graduation study, in which were presented the newer developments in professional pharmacy and related fields,

was made available to registered pharmacists of Minnesota on February 15, 16, and 17, 1937, and on January 31, February 1 and 2, 1938, in the Center for Continuation Study. The limited enrolment of fifty for the 1937 institute was filled and sixty-one pharmacists registered for the 1938 course of study. Approximately 60 per cent of those in attendance were from towns outside the Twin Cities. Members of the staffs of the College of Pharmacy, Medical School, School of Business Administration, and the College of Science, Literature, and the Arts, together with guest lecturers from Indianapolis, Detroit, Ann Arbor, and Rochester, Minnesota, constituted the faculties of these pharmaceutical institutes. The enthusiastic reception accorded these institutes by the pharmacists of Minnesota, together with the conviction that they will contribute materially to a better pharmaceutical service to the physicians and to the people of the state of Minnesota, indicate clearly that the University of Minnesota should continue to offer them annually.

As evidence of appreciation by the pharmacists of Minnesota, the following resolution was adopted at the 1938 Convention of the Minnesota State Pharmaceutical Association:

Resolved: That Dean Rogers and the University of Minnesota be commended for the Pharmacy Continuation Course, and be requested to continue these courses.

It is my opinion that, as soon as practicable, the length of the course of study should be increased from three days to at least one week.

Student Council.—In January, 1938, the Senate Committee on Student Affairs approved the application of the Student Council of the College of Pharmacy for recognition. The purpose of this organization is to supervise student activities and discipline, to represent the student body in matters involving the students and faculty, and to promote a feeling of respect toward the College of Pharmacy and its faculty. Dr. Glenn L. Jenkins, professor of pharmaceutical chemistry, was appointed by the dean as faculty adviser to the council. The activities of the Student Council, under the presidency of senior student Mr. Don Forcha, have been constructive and commendable.

Educational research in the College of Pharmacy.—During the past four years, a special research project of predictive and achievement tests on pharmacy students has been conducted under the direction of Professor Harl R. Douglass of the College of Education. The practical value of the results of these tests for student guidance and correction has been demonstrated especially during the biennium 1936-38. As an educational research project, this work is completed except in so far as further elaboration upon it may be recommended by the Committee on Educational Research. I am desirous that these predictive and achievement tests continue to be given to students in every entering class and that correlations be made with their accomplishment records over a period of four years. The results of this work have been, and will continue to be, of great interest and practical value not only to us but also to all the colleges of pharmacy that are members of the American Association of Colleges of Pharmacy and the Committee on Predictive and Achievement Tests of the American Association of Colleges of Pharmacy.

The application of the results obtained by Dr. Palmer O. Johnson of the College of Education in a laboratory experiment in Zoology 1-2-3, to several similar courses offered in the College of Pharmacy, has resulted in our students gaining a more complete understanding of the medicinal plant structure and function. The benefits derived from this piece of educational research have stimulated the desire for further advice and suggestion from experts in the educational field. Upon several occasions, Dr. Palmer O. Johnson and Dr. T. Raymond McConnell have discussed these matters with our faculty. The faculty of the College of Pharmacy wishes to

improve its methods of presentation and its course examinations and I am sincerely grateful to the Committee on Educational Research for providing the funds with which to carry on some of these projects during 1938-39.

Pharmaceutical museum.—The income from the Frederick J. Wulling Trust Fund together with donations from Minnesota pharmacists, made it possible to add some interesting historical pieces to the pharmaceutical museum. The displays and exhibits of museum pieces, incunabula, etc., have occasioned many favorable comments. The monies available for the museum do not as yet provide for its development and expansion in a manner commensurate with its cultural and educational value to students and practitioners.

Fellowships and scholarships.—The Minnesota State Pharmaceutical Association Graduate Fellowship of \$500 for the year 1936-37 was held by Miss Laurine Jack, M.S., of Minneapolis, and Mr. Curtis Waldon, M.S., of Rochester, Minnesota, and for 1937-38 by Miss Jack and Mr. Allen White of Minneapolis. The winner of the Minnesota State Pharmaceutical Association Scholarship of \$105 in 1936-37 was Miss Harriet Hansen of Duluth, and in 1937-38, Mr. Taito Soine of Virginia, Minnesota. At present the college has only one graduate fellowship of \$500 and one scholarship of \$105. This is much less than at other institutions of comparable standing.

State Board examinations and placements.—The Minnesota State Board of Pharmacy conducts its examinations twice a year in the College of Pharmacy. During the biennium, 115 persons made application for examination for license to practice pharmacy in Minnesota. Of these, 75 were graduates of our college. Of this number, 71 (94.6 per cent) passed the examinations and were licensed. Of those who were not graduates of our institution, 21 (52.5 per cent) passed the examination for registration.

Respectfully submitted,

CITARLES H. ROGERS, *Dean*

COLLEGE OF EDUCATION

To the President of the University:

SIR: I herewith present the report of the College of Education for the biennium 1936-38.

The contribution of the late Dean M. E. Haggerty.—In October of 1937, Dean M. E. Haggerty died. He had directed the College of Education for eighteen years. In his death, the University of Minnesota and education throughout the nation have suffered a distinct loss. Under his guidance this college has maintained a position of increasing leadership with members of the staff in the forefront of educational enterprises, and its graduates occupying positions of strategic importance. It has become one of the largest of the university schools or colleges of education. Dean Haggerty himself was identified in one way or another with many, perhaps most, of the major movements in education. His counsel was sought continually and appreciated most by those who know education best.

In the administration of the College of Education, Dean Haggerty built up a staff of outstanding educators. He encouraged research, scholarship, productivity, and leadership on the part of this staff, and professional attitude and adequate preparation—specialized, where necessary—on the part of the graduates. The promotion of these objectives and the example and influence of his personal qualities motivated the College of Education during his administration and will leave their impress indefinitely.

During 1937-38, the administration has been in the hands of an acting dean.

Report of progress.—Among the accomplishments of the biennium the following should be mentioned:

1. Abolition of a considerable number of specialized curricula at the undergraduate level.
2. Adoption with approval of the Board of Regents of a five-year curriculum in Physical Education, leading to the Ed.M. degree. Other five-year curricula should follow soon, certainly in the special fields such as music education and art education, where graduate work for the M.A. and M.S. degrees has not yet been established.
3. Assignment to the graduate level of many courses previously open to both graduate and undergraduate students.
4. Development of training programs in the fields of guidance, personnel, recreation, and higher education in which beginnings had been made.
5. More attention to courses, particularly in the Summer Session, representing such new movements or new emphases in education as: radio education, visual education, the experience and activity unit, greater use of demonstration facilities. The summer program has also been expanded in an effort to secure contacts for students with outstanding guest instructors who have been brought in to discuss current issues and problems.
6. Guidance given, upon invitation, for the development of a school at Groveland where instruction along so-called "progressive education" lines is to be demonstrated in elementary education for observation and evaluation. A further development and evaluation project is under way.
7. Appointment of a committee which is studying the undergraduate core sequence in technical-professional preparation, for revision and for some experimentation.
8. Renewal of interest in the Bureau of Educational Research for field studies in Minnesota education and for the study of College of Education problems.
9. An increase in the number of teaching assistants to a total of nineteen.
10. Closer relationships with the State Department on problems of Minnesota education.
11. Expansion of personnel in industrial education, including the distributive occupations, agricultural education, and home economics education under the George-Deen appropriation, for increased activity in teacher education and for improving the rank and file of workers in vocational fields. An agreement exists with the State Department that the teacher training function shall reside in the state institutions while supervision shall reside in the State Department.

12. An effort to bring about closer co-operation between the College of Education and the subject-matter departments in development of better programs of teacher education. Only initial steps have been taken. Co-operative effort, which should be developed along many lines, has been begun in subject-matter and special conferences held for the social studies, English, and for summer recreation leaders. It is hoped that these may be continued in all major teaching fields or on major problems cutting across fields. (See page 60.)

13. Co-operation with, and leadership of, educational institutes at the Center for Continuation Study and an increased use of the Center for state and regional institutes on education problems, including guidance and personnel, curriculum construction, visual education, safety education, recreation, W.P.A. nursery, adult education, secondary education, and general education. Joint sponsorship with the State Department, teachers colleges, and state organizations was encouraged.

14. Initiation on a small scale of more faculty visitation of graduates for the follow-up of those who are teaching and for the study of educational problems to improve the educational program and to keep faculty consciousness fresh as to the status of education in Minnesota. It is the plan to include subject-matter instructors in this program, particularly those who may be departmental representatives in the College of Education and major advisers for students.

15. More use of faculty counsel on administrative problems through committees, individual conferences, and faculty meetings.

16. The unification of the administration of teacher training in demonstration and practice schools with the principalship of the University High School.

17. Taking over responsibility for the administration of the curriculum for recreational leaders, which was prepared by a university committee appointed by the president.

Graduate work in education.—One need is for more staff advisers for graduate students. In such graduate fields as elementary education, secondary education, and administration, some members of the staff have had to carry too heavy loads of advising. A check of graduate students in education during the fall quarter of 1937-38 showed 214 active registrants. The load becomes particularly heavy during the summer. In 1937, for example, there were 670 graduate students registered in Education during the two terms of the Summer Session; they constituted 47 per cent of all graduate students registered in the University at that time. Such loads will in time react adversely on quality of instruction, on personal productivity, on the health of the staff, and on graduate school standards.

There is an increasing number of graduate students and a relatively larger proportion of them appear to be majoring or minoring in education within the Graduate School during the academic year. Exact figures are difficult to ascertain because many graduate students do not register in consecutive quarters and summer sessions; however, an index may be attained from the announcements in the commencement programs. According to these, 40 per cent of the Master's degrees conferred from 1932 to 1937 were in education, while during the five-year period, 1927 to 1932, 26 per cent were in education. The average number of Master's degree graduates with a major in education increased during these five-year periods from 44 to 81. In 1937 it was 117, due in part to the adoption of the B plan of graduate work, which does not require the thesis and emphasizes a broader concentration with related work. The desirability of Plan B for many graduate students who plan for teaching careers is indicated by the fact that less than one fifth of those previously registered for graduate work attained the degree under Plan A (with thesis). It is hoped that there may be no decrease in Plan A enrolments in the Graduate School because research workers of superior ability and training are needed everywhere in public instruction.

Students who minored in education and majored in some other field were not included above. Probably more than one half of those upon whom Master's degrees have been conferred majored or minored in education.

New functions in graduate education.—The preparation of administrators and teachers of secondary and elementary schools is becoming a major function of the

Graduate School. At the present time, three out of ten secondary teachers in the United States, according to the National Survey of the Education of Teachers, have a fifth year of education beyond high school with or without a Master's degree. The recommendation of recent surveys on the education of teachers, as well as the pressure of regional accrediting associations and of local school administrators, is for the rapid attainment by secondary teachers, principals, supervisors, and superintendents of the five-year period of college education, presumably with a Master's degree. These recommendations will be followed, so that an increasing stream of registrants for fifth-year work may be expected. The issues involved are many. Some of those we face are these:

In the state of Minnesota, which is well in advance on many items of teacher preparation, only one half as many teachers as for the nation as a whole have a fifth year of education for secondary teaching. The obligation of the University to supply this fifth year for public school teachers is clear. How it may be done best is less clear, but there are some considerations which point the way.

The average length of a secondary teacher's career is about ten years. In New York State, outside of New York City, only 15 per cent of teacher withdrawals were due to death or retirement. Somewhat similar conditions prevail in this area. College teaching, for which graduate schools used to prepare personnel exclusively, is more likely to be a life career. In addition, there are nearly three times as many secondary positions to maintain as there are college positions. In the future, the increasing numbers of persons who will apply for admission to go through the graduate schools for teacher preparation may eventually change the objectives and the character of graduate work. The needs of the high school teacher, with changing school curricula and organization, will no doubt result in changes in the character of preparation. It will increasingly be determined in terms of the professional needs of that level. These will differ in specialization from the needs of those who plan college teaching or subject-matter research.

The supervision of graduate programs.—Another issue arises from the fact that the supervision of graduate programs and the setting up of graduate requirements are often passed upon by an administrative agency, the majority members of which, by nature of their college work, seldom enter a public school classroom. They are concerned with the development of research and advanced teaching in their own fields and do not need to study public education problems intensively. Their ideas, influenced by college department interests at times, or unaffected by the rapidly changing situations in public education, may often be at variance with the ideas of those who are intimately and continuously in contact with teachers. The problem is to bring all departments entering into the education of public school teachers more intimately into contact with the changing nature of secondary education and the needs of education, and to have responsibility, as well as authority, definitely placed to make professional education sensitive to needs. As much of the technical professional work is a part of the fifth year, it tends to become more professional and less academic in orientation. Questions which arise are:

Should the five-year curriculum for secondary teaching, offered for an increasing number of prospective teachers, be administered by the professional school as were the two- and then the four-year curricula? If so, should there be a different sort of degree, such as the Ed.M. or even the Ed.D.? What will be the effect of divided administration of five-year curricula that should be integrated?

Whether administered by the Graduate School or the College of Education, ought the preparation for the Master's degree for teachers in elementary and secondary education be differentiated from the M.A. or the M.S. degree, which is

usually designed for a limited number of subject-matter specialists or research workers? Differentiation may possibly make the requirement of comparable standards for all groups more difficult of attainment; on the other hand, lack of differentiation may retard the upgrading of teachers in the state.

These are examples of questions we should face co-operatively, realistically, and unselfishly. We should lengthen the period of education for an increasing number of teachers in Minnesota more than we do, even though, as noted before, nearly one half of the registrants in the Graduate School already are prospective teachers, supervisors, and superintendents in public school education.

The doctorate.—The first Doctor's degree at Minnesota with a major in education was conferred in 1917. Altogether there have been 91, of which only 24 were conferred more than ten years ago. During the last five years, the average number of doctoral degrees conferred annually in education has been 6.5, constituting 9.2 per cent of all doctor of philosophy degrees conferred during that period. The placement of these selected persons with our standard of preparation has been most gratifying. Their success is creating an increasing demand for our graduates. In the ten-year period from 1928 to 1937, inclusive, 46 graduate students received the Ph.D. degree in education at Minnesota. Of these, 17 are now holding administrative positions: 2 presidencies, 7 deanships, 6 directorships, and 2 heads of departments. One candidate for the Ph.D. degree within the next year now holds a university presidency.

At present doctoral graduates in education secure employment almost exclusively in colleges, teachers colleges, and universities. The time is not far distant when public school administrative positions will attract superior Ph.D. candidates. While Minnesota has but one superintendent with a doctorate now, Illinois already has eighteen.

There is a growing demand from teachers colleges for instructors holding the doctoral degree with a major in an academic or special subject and with a minor in education—a type of preparation that is too infrequently given. We should recognize this definite need and be prepared to meet it.

The Summer Session in education.—An increased number of students at the undergraduate level results in overproduction of teachers, but not necessarily of well-qualified teachers. However, the size of a summer session enrolment is a measure of service in the bettering of qualifications, because the registrants are largely teachers and administrators from actual teaching positions who desire to improve themselves. To the improvement of teaching, the Summer Session is making a major contribution. The net increase of undergraduate students in education in the Summer Session for 1938 over 1937 (including for purposes of comparison the public health nurses, who were registered in education in 1937 but not in 1938) is over 400. A check on 1937 summer session enrolments also reveals that about 47 per cent of the graduate students were in education.

The number of teachers or prospective teachers served by the Summer Session constitutes about 43 per cent of the entire summer session enrolment. During this biennium, new opportunities for summer study have been added in the fields of guidance and personnel, higher education, visual education, and radio education; and arrangements have been made for observation of instruction in the Tuttle Demonstration School, for lecture courses by guest instructors, for special courses in Minnesota problems offered in part by members of the State Department, and for an expanded offering in administration. It appears that the selection of specific problems in newer phases of education and intensive treatment of these selected problems for experienced teachers is needed by many. There is much demand for

a curriculum laboratory, where teachers may work on such special problems. Such a laboratory should be used, also, by committees producing courses of study of the newer types. It can be co-ordinated with the Education Seminar. The trend of the past to follow other curricula or state curricula is giving way to local curriculum production.

In 1938, the enrolment in courses on school administration increased much over 1937, due in part to a wider offering, to the study of special problems in unit courses, and to the requirement of the North Central Association for a Master's degree in the superintendencies of accredited schools.

However difficult it may often be for juniors and seniors to see the value of professional subjects, it is characteristic for experienced teachers who come back for summer sessions to want additional work in education, often to the neglect of better preparation needed in subject-matter fields. The limited summer offerings in advanced subject-matter courses suited to the teaching fields, however, create a difficulty. There should be more rotation of advanced courses during two- or three-year periods. It is doubtful whether a high school teacher should complete a graduate major in education, unless he is planning for administrative or supervisory work.

Major advisers in academic departments who desire their advisees to secure positions in teachers colleges might well plan a minor under Plan A or a liberal portion of work under Plan B in education. This work should be selected to make available for teachers valuable content in education offered at the graduate level only. Subject-matter advisers often are not conscious of the extensive content in curriculum, in child and adolescent psychology, and in school organization and management, or of the desire of administrators in ordinary schools following traditional patterns to have their teachers study innovations, the results of research in the rapidly changing educational system of the current period. Too frequently they think of education courses only as methods courses. Most of these courses no longer are specifically concerned with methods, but deal with the larger and broader problems of education for individual growth and for social progress, the two major concerns of all education. On these problems educators and subject-matter specialists need to get together in sympathetic, co-operative, compromising attitudes to improve and to balance the education of teachers. Teacher education administered in a large university for practical and professional purposes by a school of education is an all-university task.

Guidance and selection.—The democratic conception of education which prevails in state universities forces upon us the concept of a general education for all, through a period now widely accepted as including the junior college. This education at the college level needs adjustment to individual cultural needs or interests, and orientation to social needs as well. Today the college, rather than the individual, must adjust during the general education period. There is no alternative for the state university under the democratic concept. However, the teaching profession must select the best it can attract from those who come. There are practical limitations to such selection. Though state institutions may be obliged to accept all those who present high school diplomas, they must not be expected to prepare all comers for teaching—the competent and the incompetent alike. It must be kept in mind that public education, with 900,000 teachers, whose average service is only ten years, cannot attain the degree of scholastic selection achieved by the medical profession, for instance, which needs only to fill the ranks of 175,000 doctors who are engaged in a life career. For each doctor selected and trained, twenty teachers must be prepared for their profession. Obviously, the problem of selection is not similar.

Nor can we yet select as rigidly on scholastic grounds for teaching at public

school levels as we do for the 100,000 life career positions at the college level. Personality, too, probably enters as a more important supplementary factor. High standards of selection may be possible for certain key positions in administration, supervision, or research, but not for the rank and file of public school positions, because larger numbers are involved. Nevertheless, with the number of youths who are not yet seeking a college career greatly exceeding the number who do, and with many of this large group outside the colleges more capable of securing a higher education than many who enter, it appears that there is social loss in the failure to guide capable persons toward teaching and permitting persons of low scholastic or personal attainments to enter the profession. This problem can be solved only through better educational guidance at the secondary school and junior college levels, followed by further, more rigid selection at the beginning and throughout the period of professional education, including the early periods of probationary teaching.

In these matters, higher education and state certification have been negligent with reference to teaching. This is inexcusable because there is a large overproduction in academic teaching fields for the secondary level, while there are now shortages in all the special subject fields and in elementary education, even of elementary teachers graduated after only two years of preparation in teachers colleges. Guidance must keep out all incompetents, while yet directing many more capable students to the areas where shortages do exist. This is one reason why more stress is being placed upon preparation for elementary teaching in state universities in four- and five-year curricula, so that shifts may be made to the fields where there is need, from fields such as English and social studies, where the oversupply is large.

With the return of greater prosperity, with the consequent increased competition from other fields, the opportunity for selection for the teaching positions becomes less, and the problem of improved professional standards becomes more difficult. At present the teaching profession is not attracting the mental ability which it could and should; neither is a proper ratio between supply and demand maintained. All this is as true of Minnesota as of the nation as a whole.

We may, therefore, be seriously misguided in evaluating the success of a college of education in terms of enrolments and numbers of undergraduates and graduates. Such criteria have some basis of justification only if the preparation is much better than that current elsewhere. It is safe to say, however, that a better college of education does not mean numbers so much as better quality and ability in graduates, through selection and high standards. This shall be our aim in the years ahead of us. It is a problem that is university-wide and calls for co-operation and integration of all agencies participating in the education, certification, and early induction and supervision of teachers.

We are conscious of the need for studying and improving the handling of student personnel problems in the College of Education. Under the direction of the Committee on Student Personnel Work, two studies concerning probation students have just been completed. The first is an analysis of the methods used by the Committee on Probation in recent years, from which we hope to gain information for outlining policies and procedure. The second study has checked on our interviewing of probation students by comparing the progress of interviewed and non-interviewed students. This work represents the small beginning in our intention of studying our student personnel problems.

Improved and co-operative education of teachers.—A study of the undergraduate program of pre-service teacher education in our University offers many problems for co-operative attack by the University as a whole, more particularly by the College

of Science, Literature, and the Arts; the College of Agriculture, Forestry, and Home Economics; the General College; the College of Education; and also by the Medical School. The education of teachers involves the whole problem of higher education within which it is a special development. It is based on the general education program and then reaches out into specialization and modification for high school and elementary teaching areas and into technical-professional preparation for teaching itself. These contacts have proved troublesome and at times irritating in many institutions. In the words of the report of the American Council on Education, "vested interests, traditions, flimsy and inadequate knowledge of the science of education, as well as honest differences as to choice and interpretation of the values to be sought, have given rise to many perplexities." In this area, equal blame rests upon the educationist who makes a cult of his field and the subject-matter specialist who believes selection and specialized subject-matter preparation alone suffice to make a good teacher and to carry forward a national system of education. For the College of Education, I should like to pledge a spirit of fair-minded, sincere, and frank consideration of the problems that call for co-operative study and solution. Many of the most pressing problems of the education of teachers now lie in the content and organization of their general education. The University should possess the double advantage of a well-established, well-reputed separate College of Education with a professionalized curriculum and of an integrated University behind the entire program of teacher education.

Some of the problems which should be examined in conferences leading to improved policies can be selected for illustration:

1. The objectives of teacher education for each level and department. Our practices in education, as well as in subject-matter departments, are being challenged. The function of the school in society itself needs clarification. The reformer and the cynical traditionalist alike tend to confuse the issues. All this points to the need for clarifying the objectives and then giving them the emphasis they deserve in our courses and curricula.

2. The development in the high school, in the Junior College, in the Senior College, in the College of Education, and in the Graduate School of a better program of guidance, selection, and induction of suitable persons.

3. The improvement of scholarship for teaching in the subject-matter to be taught.

4. The functionalization of general education in order to secure for the teacher an education which will make him conscious of contemporary problems with adequate insights gained from the heritage of experience lack of them, and with the ability, inclination, and habit to do some thinking about these matters.

5. The better administration of curricula for teachers as these are lengthened to five years.

6. The promotion of closer contact and understanding of the status, trends, and problems of the schools for which teachers are prepared, on the part of all those for whom such insights and contacts are important in the education of teachers.

7. The core content of a teacher's general education and special education.

8. The improvement of practice-teaching facilities.

9. More scientific understanding of the child and of the adolescent for whom education is to be planned.

10. More valid and specific recommendations for prospective teachers. Recommendations written by many instructors tend to be brief and general without much discriminating detail to help the employer. They deal too exclusively with scholarly attainment.

11. Improvement of the College of Education in its university and state-wide functions. A critical evaluation of its program of studies and curricula, to simplify it and to functionalize it so far as possible.

12. Promotion, at all points, of basic research.

What should the College of Education do?—We may summarize briefly the functions of a college of education in a large state university.

It should represent the university program for educating teachers, with proper emphasis, to the state and to the region. This is essential, particularly in view of a growing importance of independent teachers colleges which are now preparing for all types of teaching including, on an increasing scale, secondary teaching.

It sets off the preparation of teachers as a major function of the state university and provides a definite school to give the program organization, effectiveness, and professional orientation. The largest group of graduates (550) of any college in the University of Minnesota during 1937-38 came from the College of Education. This does not include those who graduated from the Graduate School, who will go into public education. Within the University, teaching represents the largest single professional group. The College of Education emphasizes teaching as a profession for which specialized preparation is necessary. The teaching profession in the field desires that emphasis, and it understands and patronizes best the institutions which have a professional program for superintendents, supervisors, principals, teachers, and other specialized educational workers.

A college of education should provide leadership for securing the integration of all university resources back of the program of teacher education. The College of Education should aim to co-ordinate and to develop defensible curricula and courses rather than to dictate arbitrarily in matters of curriculum. It should have the approval power, however, in curriculum planning for teaching, since its staff, including subject-matter experts in academic departments who keep in touch with education, is conversant with the issues and problems of public education.

Its administrators should serve as an effective liaison group between public schools, the State Department, professional organizations, and the University. It should provide a program of state service to the schools.

It must secure close contact and co-ordinate, within the University, all departments which should contribute to teacher preparation and to solution of state problems in education.

It must regulate supply with demand and maintain high standards for teachers. It should promote research in education.

In all these matters, strong and well-supported schools of education in larger universities are far more effective and influential than weak schools of education or departments of education. The outstanding work of teacher education in the United States today is done in schools and colleges of education within universities. Scarcely an institution, whether university or college, with a department of education focused upon courses in education alone, possesses prestige or can point to outstanding accomplishments in supplying leadership comparable to that of perhaps twenty of the strongest schools of education.

A vitally active school of education, through its prestige, through constant contacts with school administrators, and through its alumni teachers tends to build up every other department and school of the university community with the good will that is engendered in the teaching profession through its constant contact with the state. In this work a college of education should take pride; for this it must have the support and good will of other colleges.

There are dangers, too, in the school of education plan. It may result in a decreasing concern of academic departments in the problems of teacher education and of state education. The education group within the college of education may monopolize state interest and state contact, where it should promote such opportunities for all. It is time for the working relations of each with the other to become more intimate, sincere, and continuing, if the contribution of all departments to the education of teachers is to be at its maximum.

Needs.—Some of the needs of the College of Education are the following:

There is a lack of specialized personnel and of research in the fields of educational philosophy, educational sociology, comparative education, radio, visual, and adult education. Steps have been taken to fill this gap.

The Bureau of Educational Research should receive larger support and undertake wider activities.

The classes in education are often so large that too few duplicate copies of reference materials are available in the library. This calls for larger support of these items in the library budget. Particularly acute is this problem during the summer, when over 2,000 teachers and administrators come here to study.

The building which is used for the University High School cannot house a large enough enrolment to set up a modern differentiated high school program. It is unsuited to modern high school work. It can serve only as a place for a limited amount of experimentation and directed teaching. The time has come when the prestige of the work of the College of Education of this University calls for facilities comparable to those at colleges of similar standing—at Michigan, Ohio State, Chicago, Iowa, Stanford, California, and Columbia, for example. A single building, large enough for an elementary school, a high school, and the College of Education, with offices, laboratories, and recitation rooms, adequate and not scattered over a large campus, should be built.

A curriculum laboratory for graduate students, for Twin City and state teachers is needed. The State Department has indicated that it would like to pool its resources in texts and instructional materials in such a laboratory at the University for its own use and for the use of state curriculum committees.

A laboratory for research work by graduate students in school administration along the lines of those found at Teachers College, Columbia University, and the University of Chicago, is desirable. The University of Minnesota serves a large regional area as a leading center in the training of administrators and principals. It should attempt to do it in a thorough-going manner.

Five-year curricula with the Ed.M. degree are now needed in music education and art education along lines already established in the five-year curricula in physical education. An M.A. or an M.S. degree in these fields is not available now in the Graduate School. The amount of specialization calls for larger majors than in other academic fields because of the skills involved. An adequate general education, adequate major and minor preparation, and adequate orientation to education can be provided only in a well-integrated five-year sequence.

An outstanding research center in agricultural education can and should be developed here. The Federal Office of Education has pointed out our unique opportunity in the Northwest for training research workers in agricultural education, because we possess a strong College of Agriculture, Forestry, and Home Economics to provide subject-matter training and a College of Education to develop research specialists. Our undergraduate department, with 135 majors and the increased interest in graduate work, will in time contribute students for such research. It is pointed out that a shortage of highly competent research men exists nationally in agricultural education.

In conclusion, may I say that it will be our purpose in the next biennium to develop a program which contains as points of emphasis the trends and needs indicated above. Particularly shall we think of the College of Education as an agency for the co-ordination of all the resources of the University in a forward-looking program of education for teachers.

Respectfully submitted,
W. E. PEIK, *Dean*

SCHOOL OF BUSINESS ADMINISTRATION

To the President of the University:

SIR: This report covers the major activities of the School of Business Administration for the biennium 1936-38.

Curriculum.—The most significant development in the School of Business Administration during the past two years has been the introduction of several combined programs in co-operation with other colleges of the University. In addition to the five-year engineering and business curricula that were first introduced on an experimental basis in 1934, there are now similar programs in effect with the Law School, the College of Pharmacy, and the College of Agriculture, Forestry, and Home Economics.

The first of these courses was introduced in response to a demand on the part of industrial plants for persons having both a basic engineering training and a knowledge of economics and business administration. Many engineers find that their duties carry them out of their particular specialties in chemical, mechanical, electrical, and civil engineering into the field of management. Here they are handicapped if they have not had some training in such business subjects as accounting and finance. The need for such training is evidenced by the large number of engineering graduates registered in extension classes in business administration.

It is also true that students trained exclusively in business subjects are handicapped in management positions in manufacturing establishments unless they have a fair understanding of the basic subjects in engineering. Industry requires a type of individual who is trained along broader lines than is afforded in a strictly engineering or business curriculum. While the specialist has his place in industry, the field of factory management calls for a much broader training. The experiment in the combined engineering and business curriculum has proved successful. All of the graduates thus far have secured favorable positions and there is evidently an established demand. In 1937-38 the program was extended to include students registered in the agricultural engineering course in the College of Agriculture, Forestry, and Home Economics.

The combined Five-year Course in Pharmacy and Business which was approved in June, 1938 is a result of a somewhat similar situation to that in engineering. Many of the graduates of the College of Pharmacy become attached to the management staffs of chemical plants and others become managers or proprietors of retail stores. In such positions a training in business subjects is essential. It is the plan of the five-year combined curriculum to provide a training both in the technical subjects of pharmacy and in the field of business administration.

The most recent of these combined programs has been arranged in co-operation with the Law School. With the increase in governmental regulatory agencies, a large part of the work in the modern law office comes under the category of administrative law. Practice before the Bureau of Internal Revenue, the Securities and Exchange Commission, the Social Security Board, and similar agencies requires a knowledge of accounting and finance that traditionally has not been a part of the lawyer's equipment. It was to meet this demand that the combined seven-year course leading to the degrees of bachelor of laws and bachelor of business administration was instituted in the fall of 1938.

The trend in business education.—The development of these combined programs is evidence of a significant trend in business education. For many years after the

organization of schools of business administration there was a tendency toward specialization. The number of specialized sequences offered in the typical school of business administration increased rapidly during the decade of the twenties. While here at Minnesota this movement did not reach the proportions that it did in some other institutions, it is true that the opportunities for specialization were quite extensive. The combined courses represent a tendency away from narrow specialization. The student who has followed a well-integrated program covering a broad field is better trained to perform the functions of the business executive than one who has concentrated in one specialty exclusively.

New courses.—There has been little expansion of course offerings during the past two years. The principal addition was a course in the Co-operative Movement. Formerly co-operation was included as a part of one of the marketing courses. This subject is now accorded the status of a separate course.

Study of business education.—The American Association of Collegiate Schools of Business for several years has had a Committee on the Study of Business Education at the Collegiate Level which has been concerned with the problems of adjusting the training program to the needs of a changing business world. The faculties of the several schools are conscious of the fact that the scope and function of the professional school of business administration have never been clearly defined. Schools have grown mushroom-like in response to a demand on the part of students for courses of a practical character which will give them an entree to the business world that other courses do not afford. The typical school of business in this country is about twenty years old, and has grown rapidly in enrolment. Its curriculum has been developed largely on the basis of faculty interests. It has never been integrated into the scheme of higher education.

The committee has interested the American Council on Education in undertaking a thoroughgoing study of business education which should serve to aid the schools of business in orienting their fields to other branches of education and to the other professions. It is not intended that this study shall become a basis for a standardizing agency. It would be unfortunate if the experiments now under way and projected by the several schools should be hampered through an effort to standardize programs. It will be helpful to all institutions, however, to have an appraisal of the work which has been conducted in the field of higher education for business and at the same time to set forth the needs for specialized training in this field. The survey which is now being launched is a co-operative project of the American Association of Collegiate Schools of Business, the American Council on Education, and the individual member institutions, of which the School of Business Administration at the University of Minnesota is one.

Conferences.—A conference on the topic, "Control of the Boom" was held at the Minnesota Union on the afternoon and evening of May 11, 1937, with an attendance of over two hundred, mostly bankers. This was the second conference on a current economic problem sponsored by the School of Business Administration. It was arranged for the purpose of affording an opportunity to those in this community to hear a subject of great current concern discussed by eminent authorities and to participate in such a discussion themselves. The speakers were selected to represent different schools of thought, thus giving an opportunity to hear a fair presentation of different points of view.

A Bankers' Conference was arranged in co-operation with the Center for Continuation Study on March 3, 4, and 5, 1938, with a schedule of talks pertaining to the investment of bank funds. The discussion centered largely on the various classes of bonds that appropriately make up a bank portfolio and the tests that may

be applied in ascertaining their investment value. The interest in this type of conference was evidenced by the fact that the attendance at these sessions ran well above two hundred and there were bankers present from every county in the state.

New building.—The school will open the academic year in the fall of 1938 in its new building (Vincent Hall) and for the first time in its history will be located in a structure designed specifically for its own purposes.

The new building contains thirteen classrooms, seven laboratories, and twenty-one offices as compared with six classrooms, three laboratories, and seventeen offices in the old building. The building is well located on the campus in close proximity to the general Library. It will be possible to conduct nearly all of the classes in the building.

In spite of this fact, however, the school will still be somewhat handicapped by lack of adequate facilities. The original plans for the building included a large lecture room, two large laboratories on the third floor, and a fourth floor, all of which were eliminated when the appropriation was reduced from the amount requested, \$400,000 to \$300,000. The school is in great need of that space and will be seriously cramped until it has been provided.

Enrolment.—There were 794 students registered in the School of Business Administration in 1937-38 as compared with 639 in 1936-37 and 560 for the last year of the preceding biennium. Thus there has been a net increase of 42 per cent in the past two years. This has resulted in a further increase in the average class size, a situation which was mentioned in this report two years ago as even then causing considerable difficulty. It has become increasingly difficult to examine students' work and to grade examination papers effectively. The professors in charge of large classes running from one hundred to two hundred students find it physically impossible to examine carefully each student's written work. As a result they must depend more and more upon the services of graduate assistants.

There is, however, a limitation upon the amount of work that can be assigned to assistants. This means that the amount of materials submitted by students which can be thoroughly examined is restricted as the size of classes increases. It is important that something be done to remedy this situation. The most effective means, of course, would be to increase the size of the staff, which would make possible a reduction in the size of classes. A second possibility is expansion of the number of reader-assistants afforded to the members of the staff. The remaining alternative is a limitation of the number of students admitted. The faculty is much concerned about this problem and is making a study with a view to recommending the particular policy which should be pursued.

Respectfully submitted,

RUSSELL A. STEVENSON, *Dean*

GRADUATE SCHOOL

To the President of the University:

SIR: As acting dean, 1937-38, I submit the report of the Graduate School for the biennium 1936-38.

Registration and degrees.—This biennium completes a twenty-five year period of Graduate School history under the administration of Dean Guy Stanton Ford. I have recorded in Table I the statistics of enrolment and a summary of advanced degrees conferred annually during this period.

These statistics are presented as evidence of growth in two items that can readily be tabulated, not because they are considered the most important elements in the growth of the Graduate School. More important is the growth in a competent graduate staff working with well-selected graduate students under conditions most favorable to instruction and research. Throughout the entire period Dean Ford, in co-operation with an appreciative, competent staff, has been untiring in his efforts to foster the development of those factors which have elevated the Graduate School to its high rank among the graduate schools of America.

Funds for research.—With the large fund given in 1931 by the Rockefeller Foundation exhausted, graduate research must depend upon state funds only, which

TABLE I. SUMMARY OF GRADUATE SCHOOL ENROLMENT AND
DEGREES CONFERRED
1913-14 to 1937-38

| YEAR | ENROLMENT | DOCTORS OF PHILOSOPHY | MASTERS | ENGINEERS | TOTAL DEGREES |
|---------------|-----------|--------------------------|---------|-----------|------------------|
| 1913-14 | 175 | 3* | 45 | ..... | 48 |
| 1914-15 | 237 | 5 | 56 | ..... | 61 |
| 1915-16 | 378 | 8 | 54 | ..... | 62 |
| 1916-17 | 464 | 15* | 70 | ..... | 85 |
| 1917-18 | 376 | 11 | 47 | ..... | 58 |
| 1918-19 | 372 | 15 | 43 | ..... | 58 |
| 1919-20 | 608 | 8 | 66 | ..... | 74 |
| 1920-21 | 814 | 16 | 72 | 20 | 108 |
| 1921-22 | 988 | 21 | 98 | 14 | 133 |
| 1922-23 | 1,136 | 23 | 106 | 25 | 154 |
| 1923-24 | 1,333 | 27 | 129 | ..... | 156 |
| 1924-25 | 1,407 | 32 | 130 | 1 | 163 |
| 1925-26 | 1,624 | 45 | 127 | 2 | 174 |
| 1926-27 | 1,922 | 34 | 161 | 1 | 196 |
| 1927-28 | 2,066 | 55 | 182 | 1 | 238 |
| 1928-29 | 2,164 | 69 | 178 | 2 | 249 |
| 1929-30 | 2,225 | 67 | 198 | 2 | 267 |
| 1930-31 | 2,459 | 68 | 252 | 5 | 325 |
| 1931-32 | 2,881 | 70 | 246 | 2 | 318 |
| 1932-33 | 2,768 | 72 | 301 | 1 | 374 |
| 1933-34 | 2,303 | 79 | 216 | 2 | 297 |
| 1934-35 | 2,460 | 82 | 187 | 2 | 271 |
| 1935-36 | 2,790 | 80 | 230 | 2 | 312 |
| 1936-37 | 3,135 | 83 | 302 | 3 | 388 |
| 1937-38 | 3,299 | 79 | 349 | 1 | 429 |
| Totals | | 1,067 | 3,845 | 86 | 4,998 |

* These figures include one D.Sc. degree in 1914 and three D.Sc. degrees in 1917.

are inadequate to meet the requests for research grants by members of the graduate staff in the basic sciences and the humanities.

Table III shows the number and amount of grants and the annual expenditures from funds available for research in the Graduate School budget. The item "Fluid research" includes the grants from the Rockefeller Foundation.

TABLE II. NUMBER AND AMOUNT OF GRANTS FOR RESEARCH
1931-32 to 1937-38

| YEAR | ROCKEFELLER FUND | | GRADUATE | | MEDICAL | |
|---------|---------------------|----------|----------|----------|---------|----------|
| | No. | Amount | No. | Amount | No. | Amount |
| 1931-32 | 42 | \$63,660 | 35 | \$10,690 | 31 | \$25,575 |
| 1932-33 | 61 | 65,629 | 33 | 12,757 | 38 | 26,672 |
| 1933-34 | 63 | 61,734 | 32 | 12,940 | 41 | 24,509 |
| 1934-35 | 64 | 50,742 | 35 | 11,390 | 47 | 25,979 |
| 1935-36 | 50 | 40,482 | 41 | 10,276 | 46 | 25,553 |
| 1936-37 | 46 | 29,226 | 32 | 7,061 | 46 | 25,974 |
| 1937-38 | 18 | 8,358 | 60 | 17,601 | 48 | 26,376 |

TABLE III. GRANTS AND FUNDS FOR RESEARCH, 1936-38

| GRANT | NUMBER OF GRANTS | AMOUNT GRANTED | AMOUNT SPENT |
|-------------------|---------------------|-------------------|-----------------|
| 1936-37 | | | |
| Fluid research | 46 | \$29,225.62 | \$23,019.82 |
| Graduate research | 32 | 7,060.08 | 5,941.13 |
| Medical research | 46 | 25,974.22 | 24,585.03 |
| Total | 124 | \$62,259.92 | \$53,545.98 |
| 1937-38 | | | |
| Fluid research | 18 | \$ 8,358.00 | \$ 6,079.59 |
| Graduate research | 60 | 17,601.38 | 14,408.58 |
| Medical research | 48 | 26,376.12 | 25,490.87 |
| Total | 126 | \$52,335.50 | \$45,979.04 |

The Master's degree.—In 1936-37 the Department of Physical Education and Athletics submitted to the Graduate School a five-year curriculum leading to the M.A. degree. After due deliberation the Executive Committee of the Graduate School concluded that the curriculum designed to train recreational directors and athletic coaches might more appropriately lead to a professional degree conferred by the College of Education. The dean of the Graduate School so recommended and upon the president's recommendation the Board of Regents authorized the College of Education to administer the curriculum and to confer either the degree, master of physical education or master of education in physical education. The faculty of the College of Education chose the latter degree, master of education in physical education.

In 1937-38 the College of Agriculture, Forestry, and Home Economics presented to the Graduate School a five-year curriculum leading to the degree, master of forestry, with a proposal by the Agricultural Graduate Group Committee that the curriculum be administered by the college and that the Graduate School confer the professional degree, master of forestry. The Executive Committee, following extended discussion, took the following action:

Any curriculum involving both undergraduate and graduate work in any three-year program beginning with the junior year, or five-year program beginning with the freshman year, must lead to a professional degree and not to the degree Master of Arts or Master of Science.

It is the sense of the Executive Committee of the Graduate School that any proposal by any college of a curriculum leading to a professional Master's degree shall be submitted through the appropriate group committee to the Executive Committee of the Graduate School and then if approved by them to the President of the University for final action.

Since all of the colleges offering graduate work would be involved if this action became operative the Executive Committee considered it advisable to call a conference of the deans of the several colleges and others for a discussion of the professional degree.

This group took no formal action for none was expected. In general the group favored the committee's proposal.

Already the University has two curricula, one administered by the Medical School, the other by the College of Education, each leading to a professional degree that is not conferred by the Graduate School.

The School of Business Administration has a curriculum that leads to the professional degree, master of business administration, conferred by the Graduate School. The Department of Sociology offers a graduate curriculum in social work which is definitely professional and administered by the Graduate School. The same situation prevails in Public Health, Psychometrics, Public Administration, and Speech.

At its meeting on June 6, 1938, the Executive Committee considered three proposed five-year curricula in (1) music education, (2) art education, and (3) science for high school teachers. No formal action was taken. Other curricula are in preparation and will be presented to the Executive Committee.

It is possible that in fields with basic subject-matter content, an adequately trained graduate staff, and a well-selected student body, the Master's degree under Plan B (without thesis) with the reduced emphasis upon research and thesis is adequate.

The summary of degrees conferred under Plan B (see Table IV) indicates that in several departments it is quite in demand. In the University as a whole the increase in the number of degrees granted has not been at the expense of degrees under Plan A (with thesis).

TABLE IV. NUMBER OF MASTER'S DEGREES CONFERRED IN THE SEVEN GRADUATE GROUPS
1936-37 and 1937-38

| GROUP | PLAN A (with thesis) | | PLAN B (without thesis) | | TOTALS | |
|---|--------------------------------------|------|----------------------------|------|--------|------|
| | 1937 | 1938 | 1937 | 1938 | 1937 | 1938 |
| | Agriculture and Home Economics | 29 | 17 | 2 | 6 | 31 | 23 |
| Biological Sciences | 7 | 15 | 1 | 2 | 8 | 17 |
| Education, Psychology, Child Welfare, and Philosophy | 77 | 53 | 52 | 61 | 129 | 114 |
| Languages and Literature | 26 | 15 | 2 | 9 | 28 | 24 |
| Medicine | 32 | 70 | ..... | 4 | 32 | 74 |
| Physical Science, Mathematics, and Engi- neering | 33 | 35 | 10 | 14 | 43 | 49 |
| Social Sciences | 21 | 27 | 10 | 21 | 31 | 48 |
| Totals | 225 | 232 | 77 | 117 | 302 | 349 |

Selective admission.—For a decade or more there has been a recognition of the inadequacy of accreditation alone as a basis for admission to the Graduate School. In 1931 Dean Ford requested the writer to consider this problem and, if possible, to recommend tests and any other devices that might supplement accreditation as a basis for admission of students to the Graduate School.

Five years prior to this request the writer had initiated the construction of a test for graduate students which has since undergone three revisions following its application to over 5,000 upper classmen and graduate students.

In 1936 and again in 1937 this test was included in a battery of tests administered to the graduate students in the social sciences by Professor Edgar B. Wesley in co-operation with a committee composed of Professors J. Warren Stehman, Richard Hartshorne, August C. Krey, George B. Vold, and Lloyd M. Short. Professor Wesley's report indicates wide variation in performance which is related to the success of graduate students. His report is encouraging in that it has developed in some members of the faculty an interest in the problem, and suggests that further study with improved instruments will make more dependable our estimates of the fitness of students for graduate work.

Preliminary investigations of this problem here and elsewhere reveal its complexity and suggest that we can improve our predictions of success of graduate students. Admission of inability ultimately to make perfect predictions does not imply abandoning the search for ways and means of improving them.

TABLE V. GRADUATE STUDENTS ACCORDING TO DEGREES
FOR WHICH THEY HAVE APPLIED

| DEGREES | 1936-37 | 1937-38 |
|---------------------------------------|---------|---------|
| Master of arts | 1,374 | 1,420 |
| Master of laws | 1 | 1 |
| Master of science | 832 | 857 |
| Professional engineering degree | 2 | 6 |
| Doctor of philosophy | 620 | 670 |
| No degree desired | 306 | 345 |
| Totals | 3,135 | 3,299 |

TABLE VI. CLASSIFICATION OF GRADUATE STUDENTS ACCORDING
TO RANK ON STAFF

| RANK | 1936-37 | 1937-38 |
|------------------------------|---------|---------|
| Professor | 0 | 2 |
| Associate professor | 0 | 1 |
| Assistant professor | 6 | 10 |
| Professorial lecturer | 0 | 1 |
| Instructor | 123 | 130 |
| Teaching fellow | 70 | 64 |
| Assistant | 239 | 284 |
| Mayo Foundation fellow | 312 | 364 |
| Fellow | 29 | 43 |
| Scholar | 0 | 1 |
| Totals | 779 | 900 |

TABLE VII. GRADUATE STUDENTS ACCORDING TO AMOUNT OF WORK FOR WHICH THEY HAVE REGISTERED

| Registrants | 1936-37 | | 1937-38 | |
|---|---------|-------|---------|-------|
| | Men | Women | Men | Women |
| ACADEMIC YEAR: | | | | |
| Registered full time | 553 | 223 | 549 | 210 |
| Registered part time | 606 | 338 | 714 | 358 |
| Registered full time, Mayo Foundation | 301 | 11 | 348 | 15 |
| Total (men and women combined) | 2,032 | | 2,194 | |
| SUMMER SESSION: | | | | |
| Registered full time | 404 | 248 | 443 | 249 |
| Registered part time | 381 | 347 | 376 | 367 |
| Total (men and women combined) | 1,380 | | 1,435 | |
| Totals academic year and Summer Session | 2,245 | 1,167 | 2,430 | 1,199 |
| Less duplicates | 176 | 277 | 199 | 330 |
| Net totals | 2,069 | 1,066 | 2,231 | 1,068 |
| Net totals (men and women combined) | 3,135 | | 3,299 | |

TABLE VIII. FOREIGN STUDENTS REGISTERED IN THE GRADUATE SCHOOL

| COUNTRY | 1936-37 | 1937-38 | COUNTRY | 1936-37 | 1937-38 |
|------------------------|---------|---------|--------------------------|---------|---------|
| Alaska | 0 | 1 | Italy | 2 | 2 |
| Argentina | 0 | 3 | Japan | 2 | 2 |
| Austria | 3 | 2 | Lithuania | 0 | 1 |
| Brazil | 1 | 1 | New Zealand | 3 | 3 |
| British Honduras | 1 | 0 | Nicaragua | 1 | 1 |
| Canada | 59 | 53 | Norway | 4 | 4 |
| China | 37 | 39 | Persia | 0 | 1 |
| Colombia ..... | ..... | 1 | Philippine Islands | 1 | 4 |
| Cyprus | 1 | 1 | Poland | 1 | 0 |
| Czechoslovakia | 2 | 1 | Porto Rico | 3 | 1 |
| Denmark | 1 | 0 | Portugal | 1 | 1 |
| England | 2 | 2 | Russia | 9 | 2 |
| Estonia | 1 | 0 | Scotland | 1 | 3 |
| France | 1 | 2 | Siberia | 1 | 1 |
| Germany | 16 | 9 | South Africa | 2 | 1 |
| Hawaii | 1 | 1 | Sweden | 2 | 0 |
| Holland | 2 | 0 | Switzerland | 1 | 1 |
| Hungary | 1 | 1 | Turkey | 3 | 3 |
| Iceland | 1 | 0 | | | |
| India | 8 | 4 | Totals | 176 | 152 |
| Ireland | 1 | 0 | | | |

Respectfully submitted,

W. S. MILLER, *Acting Dean*MAYO FOUNDATION FOR MEDICAL EDUCATION
AND RESEARCH

Herewith is presented a brief summary of the work in graduate medical education and research of the Mayo Foundation from July 1, 1936 to June 30, 1938.

Faculty.—The number of members of the faculty of the Mayo Foundation is shown in Table I.

TABLE I. FACULTY CLASSIFICATION, MAYO FOUNDATION

| | PROFESSORS | ASSOCIATE | ASSISTANT | INSTRUCTORS | TOTAL |
|-------------------------------|------------|------------|------------|-------------|-------|
| | | PROFESSORS | PROFESSORS | | |
| Number on duty, June 30, 1936 | 32 | 45 | 42 | 33 | 152 |
| Promotions | ..... | 12 | 8 | 14 | ..... |
| New appointments | ..... | 1 | 1 | 13 | 15 |
| Resigned | ..... | 2 | 3 | 1 | 6 |
| Deceased | ..... | 1 | 1 | ..... | 2 |
| Emeritus status | ..... | 2 | ..... | ..... | 2 |
| Number on duty, June 30, 1938 | 41 | 40 | 45 | 31 | 157 |

TABLE II. ANALYSIS OF FELLOWSHIP APPLICATIONS RECEIVED FROM JULY 1, 1936 TO JUNE 30, 1938, MAYO FOUNDATION

| FIELD | ON FILE | RECEIVED | | NOMINATED | | DECLINED | OPEN |
|---------------------------------|-----------------|----------|---------|-----------|--------|----------|------------------|
| | JULY 1, 1936 | 1936-37 | 1937-38 | ARRIVED | COMING | | JUNE 30, 1938 |
| Surgery | 77 | 198 | 244 | 45 | 23 | 366 | 85 |
| Anesthesia | 1 | 10 | 18 | 3 | 2 | 17 | 7 |
| Neurosurgery | 3 | 6 | 10 | 1 | 2 | 14 | 2 |
| Obstetrics and Gynecology | 8 | 25 | 23 | 4 | 1 | 43 | 8 |
| Ophthalmology | 3 | 8 | 12 | 5 | 2 | 13 | 3 |
| Orthopedic Surgery | 4 | 14 | 16 | 5 | 3 | 21 | 5 |
| Otolaryngology and Rhology | 4 | 13 | 15 | 2 | 3 | 24 | 3 |
| Plastic Surgery | ..... | 3 | 5 | 2 | ..... | 4 | 2 |
| Proctology | 5 | 5 | 7 | 2 | ..... | 9 | 6 |
| Urology | 10 | 16 | 21 | 6 | ..... | 34 | 7 |
| Total surgical specialties | 115 | 298 | 371 | 75 | 36 | 545 | 128 |
| Dermatology | 6 | 7 | 13 | 3 | 3 | 19 | 1 |
| Internal Medicine | 29 | 103 | 106 | 31 | 21 | 153 | 33 |
| Neurology and Psychiatry | 4 | 4 | 9 | 2 | 1 | 13 | 1 |
| Pediatrics | 8 | 5 | 12 | 5 | 1 | 17 | 2 |
| Physical Medicine | ..... | 3 | 2 | 2 | 1 | 1 | 1 |
| Total medical specialties | 47 | 122 | 142 | 43 | 27 | 203 | 38 |
| Dental Surgery | 25 | 15 | 12 | 4 | 1 | 42 | 5 |
| Bacteriology | ..... | 2 | 4 | 2 | ..... | 4 | ..... |
| Biochemistry | 1 | 1 | 3 | ..... | 1 | 3 | 1 |
| Biophysics | ..... | 1 | ..... | ..... | ..... | ..... | 1 |
| Nutrition | 1 | 1 | 1 | ..... | ..... | 2 | 1 |
| Pathology | 3 | 17 | 18 | 6 | 4 | 25 | 3 |
| Physiology | 1 | 2 | 2 | ..... | 1 | 3 | 1 |
| Radiology | 6 | 18 | 18 | 6 | 3 | 25 | 8 |
| Total laboratory specialties | 37 | 57 | 58 | 18 | 10 | 104 | 20 |
| Grand totals | 199 | 477 | 571 | 136 | 73 | 852 | 186 |

Applications for fellowships.—During 1936-37, 1,242 physicians or medical students made written inquiries or came for personal interviews concerning graduate work in the foundation, and during the year 1937-38, 1,803 made similar inquiries. These numbers may be compared with 1,149 for 1935-36.

During 1936-37 there were 822 formal applications, and during 1937-38, 1,021. The corresponding number for 1935-36 was 813. Of these, 477 were completed

during 1936-37 and 571 were completed during 1937-38. The corresponding number for 1935-36 was 468.

On July 1, 1936, there were on file 199 formal applications for fellowships in various specialties. An analysis of these and of the 1,048 completed formal applications received during the years is shown in Table II.

An analysis of the fields in which fellows in the foundation are majoring is shown in Table III.

Eleven representatives of other institutions did work of a definite research and/or clinical nature and are included in Table III. Many fellows or other graduate students of other organizations were on duty for short periods in the foundation but were not registered.

TABLE III. MAJOR FIELDS OF MAYO FOUNDATION FELLOWS

| MAJOR FIELD | FELLOWS IN FOUNDATION JULY 1, 1936 | FELLOWS WHO LEFT OR TRANSFERRED TO OTHER FIELDS 1936-37 1937-38 | | FELLOWS WHO CAME OR TRANSFERRED FROM OTHER FIELDS 1936-37 1937-38 | | FELLOWS IN FOUNDATION JUNE 30, '38 |
|---------------------------------------|--|--|-------|--|-------|--|
| | | | | | | |
| Surgery | 76 | 28 | 24 | 33 | 43 | 100 |
| Anesthesia | 8 | 2 | ..... | 1 | 2 | 9 |
| Neurosurgery | 3 | 1 | 2 | 2 | 4 | 6 |
| Obstetrics and Gynecology | 8 | 2 | 3 | 5 | 3 | 11 |
| Ophthalmology | 4 | 2 | 2 | 3 | 5 | 8 |
| Orthopedic Surgery .. | 7 | 2 | ..... | 1 | 4 | 10 |
| Otolaryngology and Rhinology | 7 | 1 | 2 | 3 | 1 | 8 |
| Plastic Surgery ..... | ..... | ..... | 1 | ..... | 4 | 3 |
| Proctology | 4 | 1 | ..... | 1 | 2 | 6 |
| Urology | 8 | 3 | 6 | 5 | 8 | 12 |
| Total surgical specialties | 125 | 42 | 40 | 54 | 76 | 173 |
| Medicine | 69 | 16 | 29 | 25 | 27 | 76 |
| Dermatology and Syphilology | 6 | 4 | 3 | 3 | 2 | 4 |
| Neurology and Psychiatry | 6 | 3 | 2 | 3 | 7 | 11 |
| Pediatrics | 8 | 2 | 2 | 3 | 4 | 11 |
| Physical Medicine ..... | ..... | ..... | 1 | 2 | 1 | 2 |
| Total medical specialties | 89 | 25 | 37 | 36 | 41 | 104 |
| Dental surgery | 4 | 2 | 1 | 2 | 2 | 5 |
| Radiology | 7 | 3 | 3 | 5 | 5 | 11 |
| Bacteriology ..... | ..... | ..... | ..... | 1 | 2 | 3 |
| Biophysics ..... | ..... | ..... | ..... | 1 | ..... | 1 |
| Biochemistry | 1 | ..... | ..... | ..... | ..... | 1 |
| Nutrition | 2 | 1 | ..... | ..... | ..... | 1 |
| Parasitology | 1 | ..... | ..... | 1 | ..... | 2 |
| Pathology | 13 | 5 | 7 | 6 | 8 | 15 |
| Physiology | 3 | 4 | ..... | 1 | 2 | 2 |
| Total fundamentals | 31 | 15 | 11 | 17 | 19 | 41 |
| Grand totals | 245 | 82 | 88 | 107 | 136 | 318 |

Medical schools of last graduation of the students registered during the biennial period are as follows:

AMERICAN SCHOOLS

| 1936-37 | | 1937-38 | | 1936-37 | | 1937-38 | |
|-----------------------------------|-------|---------|--|---------|-------|---------|--|
| University of Arkansas | 1 | 1 | University of Michigan | 5 | 5 | | |
| University of California | 1 | 2 | Wayne University | 2 | 4 | | |
| University of Southern California | 1 | 1 | University of Minnesota | 31 | 33 | | |
| Stanford University | 7 | 8 | Washington University | 3 | 1 | | |
| College of Medical Evangelists | 1 | 1 | St. Louis University | 1 | 1 | | |
| University of Colorado | 2 | 2 | University of Nebraska | 7 | 8 | | |
| Yale University | 1 | 3 | Columbia University | 3 | 2 | | |
| George Washington University | 3 | 3 | University of Buffalo | 2 | 1 | | |
| Georgetown University | 3 | 3 | Syracuse University | 3 | 5 | | |
| Emory University | 1 | 1 | Cornell University | 3 | 2 | | |
| University of Georgia | 1 | ..... | University of Rochester | ..... | 1 | | |
| Rush Medical College | 17 | 24 | Duke University | 1 | 1 | | |
| University of Chicago | 6 | 5 | Ohio State University | 2 | 2 | | |
| Northwestern University | 26 | 27 | University of Cincinnati | 8 | 5 | | |
| University of Illinois | 9 | 8 | University of Oregon | 3 | 6 | | |
| Indiana University | 8 | 7 | University of Pennsylvania | 29 | 32 | | |
| State University of Iowa | 3 | 3 | Jefferson Medical College | 2 | 4 | | |
| University of Kansas | 1 | 2 | University of Pittsburgh | 6 | 8 | | |
| University of Louisville | ..... | 1 | Temple University | 6 | 5 | | |
| Tulane University | 10 | 15 | Medical College of State of South Carolina | 1 | ..... |  |  |
| Louisiana State University | 1 | 1 | Vanderbilt University | 4 | 2 | | |
| University of Maryland | 3 | 1 | University of Tennessee | 1 | 1 | | |
| Johns Hopkins University | 9 | 16 | University of Texas | 4 | 7 | | |
| Harvard University | 14 | 17 | Baylor University | 1 | 3 | | |
| Tufts Medical College | 1 | 1 | University of Virginia | 10 | 8 | | |
| | | | Medical College of Virginia | 6 | 4 | | |
| | | | University of Wisconsin | 6 | 7 | | |

CANADIÁN SCHOOLS

| | | | | | |
|------------------------|---|---|-------------------------------|---|---|
| University of Alberta | 1 | 1 | Queen's University of Canada | 5 | 4 |
| University of Manitoba | 8 | 6 | University of Western Ontario | 1 | 1 |
| Dalhousie University | 3 | 2 | McGill University | 5 | 3 |
| University of Toronto | 8 | 6 | | | |

FOREIGN SCHOOLS

| | | | | | |
|------------------------------|-------|-------|-------------------------|---|-------|
| University of Buenos Aires | 2 | ..... | University of Iceland | 1 | ..... |
| University of Vienna | 1 | ..... | Mysore Medical College | 1 | 1 |
| University of Rio de Janeiro | 1 | ..... | University of Rome | 1 | 1 |
| Hackett Medical College | 2 | ..... | Otago University | 1 | 2 |
| Paznany Peter University | 1 | ..... | University of Oslo | 1 | 1 |
| University of Prague | 1 | 1 | University of Lisbon | 1 | 1 |
| St. Bartholomew's Hospital | 1 | 1 | University of Edinburgh | 1 | 1 |
| St. Andrew's University | ..... | 1 | University of Glasgow | 1 | 2 |
| University of Halle | 1 | 1 | University of Freiberg | 1 | 1 |
| University of Munich | 1 | 1 | University of Zurich | 1 | 1 |
| University of Amsterdam | 1 | 1 | University of Cape Town | 1 | 1 |
| University of Leiden | 1 | ..... | University of Madrid | 1 | ..... |

Graduates.—Seventy-four graduate degrees were granted to fellows of the foundation during the period covered in this report (Table IV).

TABLE IV. GRADUATE DEGREES GRANTED, MAYO FOUNDATION

| | MASTER'S | | DOCTOR'S | |
|-----------------------------------|----------|---------|----------|---------|
| | 1936-37 | 1937-38 | 1936-37 | 1937-38 |
| Surgery | 7 | 14 | ..... | 1 |
| Anesthesia | 2 | ..... | ..... | ..... |
| Neurosurgery ..... | ..... | 4 | ..... | ..... |
| Ophthalmology ..... | ..... | 1 | ..... | ..... |
| Orthopedic Surgery ..... | ..... | 1 | ..... | ..... |
| Proctology | 1 | 2 | ..... | ..... |
| Urology | 2 | 2 | ..... | ..... |
| Medicine | 4 | 11 | ..... | ..... |
| Dermatology and Syphilology | 1 | 2 | ..... | ..... |
| Neurology ..... | ..... | 4 | ..... | ..... |
| Pediatrics ..... | ..... | 3 | ..... | ..... |
| Radiology ..... | ..... | 3 | ..... | ..... |
| Biophysics ..... | ..... | ..... | ..... | 1 |
| Experimental Surgery ..... | ..... | ..... | ..... | 1 |
| Pathology | 3 | 3 | ..... | ..... |
| Physiology ..... | ..... | ..... | 1 | ..... |
| Totals | 20 | 50 | 1 | 3 |

Lectures.—Members of the faculty of the Medical School gave a series of exchange lectures in the foundation, and members of the faculty of the foundation gave exchange lectures at the Medical School during the two years.

In addition to these and the usual lectures by members of the faculty of the foundation, 31 Mayo Foundation lectures were given by distinguished visitors, and 10 lectures were given in the Sigma Xi series.

Publications.—Publications by members of the faculty and fellows of the foundation are reprinted complete, in abridgement, in abstract, or by title in the *Collected Papers of the Mayo Clinic and Mayo Foundation*.

Respectfully submitted,

DONALD C. BALFOUR, M.D., *Director*

GENERAL COLLEGE

To the President of the University:

SIR: I have the honor to submit to you the following report covering the major problems and the progress of the General College of the University from July 1, 1936 to June 30, 1938.

The purpose of the college.—In the six years of the life of the General College, general education has become a national ground swell. One educational statesman has declared that it will dominate American educational thought and practice for at least the next quarter of a century. It is not a "movement" with its prophets, apostles, and fanatics, its ritual, paraphernalia, and trappings. It is, rather, a powerful common-sense democratic reaction to two tendencies in education which, if continued to their limits, will bring disaster.

The first of these tendencies is anti-democratic. It argues quite properly that democracy needs scholars, leaders, and researchers. None can deny this premise. In fact, most of us would declare that democracy, more than any other form of government, needs more of them more finely trained. But academic conclusion-jumpers, usually quite unwittingly, leap from this sensible base into a wholly aristocratic and unwarranted assumption that the business of higher education is to train only the academically competent, the "superior" few for leadership, research, and scholarship. This assumption leads to many evils in educational thought and practice. It tends to isolate dangerously the higher academic pursuits from the pulsing life of humanity that surrounds them and upon which they should play. It tends to make them sterile and ruthless, without fundamental sympathy, empathy, and insight necessary to effective leadership or research. It exaggerates competitive drive, praises the youth who scrambles to honors over the bowed backs of his fellow students, and condemns the "unsuccessful" to false and unjustified criticism and the brand of "inferior." It looks down its nose at, or ignores, other forms of useful and praiseworthy intelligence such as the social, the creative, and the practical. It will, I assume, if given its head, continue this struggle for eminence until it replaces the old aristocracies of power, of hereditary blood, or of money with one of brain-trusters. It may be, however, that in our long labor to achieve real democracy we must go through this one more hierarchical control.

Against this tendency, general education is on the move. It would have more and better scholars, researchers, and leaders. But at the same time it would train, as this college is attempting to train, an intelligent body of followers for the leaders, and a body, too, that could make full use of the findings of scholars and researchers, that could apply them to social and civic improvement, vocational and employment solutions, family welfare, and personal culturing.

The second tendency in education is one which not only departmentalizes, fragments, and sequentializes the fields of knowledge but spreads them apart, isolates them, denies their relationships one to the other, or so attenuates these relationships that they are no longer visible either to teacher or student. Dr. R. E. Scammon of the university faculty has likened the present school and college curriculum to a cancerous growth since it develops by a process of abnormal cell division without the power to eliminate. A brief study of the catalog of another university illustrated this trend since it showed that in the five-year period, 1930-35, it added more than two hundred courses to its curriculum and sloughed off less than twenty. General education, as we find it developing in this college and in other institutions,

is a powerful force moving against this trend and toward unity, synthesis, overviews of human knowledge, and the close study of interrelationships.

A third tendency closely associated with the other two is that teachers lay such stress upon "background" that the bewildered student finds himself at graduation with his mind filled with a series of detailed backgrounds in whatever he may have devoted himself to—history, social studies, English, the arts, or sciences. But he has no foreground and no focus. These he is expected, as he seldom does, to fill in for himself out of the conflicts, realities, and problems of the society about him. In most instances he finds himself naked and vulnerable in the present world because he has been taught to look down the dim vistas of the past of the human race, seldom to survey critically and to apply his "background" knowledge to the present time. General education, therefore, focuses sharply upon the current and emerging problems of its students and of their own present and on-going society. It does not, as some of its unenlightened critics assume, thereby jettison scholarship and research, ignore or deny the value of the study of the great classic lore of the past. Rather it demands of scholar and researcher that he furnish out of his narrow but profound knowledge the functional analogies, parallels, incidents in that lore that will light up and help solve the problems of the present.

It is the function, therefore, of the higher professional schools to train leaders and researchers for democracy each in their special fields. It is the function of the Arts college to train vocationally scholars in the arts, literature, and science. It is the function of the General College to "culture" its students in order that they may be understanding followers, giving, throughout their adult lives, intelligent social and financial support to research and leadership, and that they may find themselves at home and at ease in their intimate personal affairs, their homes, their jobs, their close and distant society. Toward these ends the General College continues its studies and experiments in personnel, curriculum, processes, methods, and evaluation.

The student body.—What then of the students in the General College, the body of youth working with us to find the materials, means, and methods of general education? We have assumed from the beginning that knowing them well was our first essential step; that we could not know fully what to teach, when to teach, nor how to teach general education until we knew whom we were teaching. I have previously reported some of the means we have used in our exploration of the student body. I shall later in this report describe the outlines of these processes. But while our findings are far from complete and will probably never be wholly finished, our understanding of our students grows daily.

They represent in parental, social, and economic background nearly the whole range of our population in Minnesota. They come from homes at nearly the extremes of poverty and wealth with the majority in the moderately low income brackets. The occupations of their parents range from a sprinkling on relief and in casual labor to a few from the professions demanding the highest training, with the majority again clustered in what is generally called the "white collar" business and industrial class. The education of their parents covers the whole range, with the majority clustering at high school levels. The proportion of foreign born parents is about the same as the proportion of the foreign born to the general population of the state. Approximately a third of the students come from homes broken by death, divorce, desertion, or chronic illness, a factor that has led to significant and critical attitudes and tensions, and has given fundamental support to our belief in their great need for training in the analysis of marriage, home, and family life problems, and ways to their solution.

On such crude and inadequate measures as we have of their educability in terms of strictly academic studies they again represent the whole range, with their median standing at approximately the top of the lower third when compared with the professional, scholarly, and research group. It is important to notice that there are among them proportionately more who are able to undertake professional training than there are in the general population which, as a whole, they represent. When we examine them in terms of social intelligence and adjustment the picture is reversed, and we find them highly competent—on the whole, considerably more so than the professional students. We are finding, too, a considerable number of students with high intelligence and ability in both creative and appreciative areas of human activity. We have as yet no measures of their practical intelligence. These factors remain to be explored in future experiments, in diagnostic testing, and in follow-up studies. On the whole we find them, then, an intensely interesting and deeply satisfactory group of young men and women to work with on the problems of general education. The group does not display the dull and bitter apathy which Howard M. Bell designates as the most common, persistent, and discouraging characteristic of contemporary American youth. Bell's findings appear in his book, *Youth Tell Their Story*, a study undertaken by the American Youth Commission of 13,500 young people in Maryland. Instead, they are alert, deeply concerned with their own and with general problems, and, for the most part, eager to discover themselves and their world in order that they may move both away from confusion and chaos and towards a better life than we, their elders, have known.

The borrowed teaching staff.—What of the staff, working with and for these students to attain the ends of general education? I have never known anywhere at any time in education so co-operative an adventure. Many of the richest teaching, research, testing, advisory, and evaluation resources of the University have been given freely to the General College, often at considerable effort and sacrifice. The Division of Home Economics has granted us an extraordinary amount of continuous teaching, research, and advisory service to the solution of the critical problems in marriage, home, and family life. Medicine, Child Welfare, Architecture, and Zoology have joined with them on this front, as has Business Administration in its work on the problems of income and consumption for the individual and family. Business Administration, Agriculture, Forestry, and the Department of Geography have sought the answers to critical problems in economics for general education. The College of Education, the Departments of History, Political Science, and Sociology, the State Historical Society, and the State Planning Board have contributed richly to the areas of the social studies. Psychology, English, and Speech have allotted us instruction as have Botany, Mathematics, and Orientation. Journalism has helped us build courses in contemporary affairs and the analysis of propaganda. Chemistry, Physics, and the Institute of Technology have lent us men, classrooms, and demonstration materials. The Departments of Physical Education for Men and for Women have been and are building us special courses on the base of general education for our students.

General university services to the college.—More than twenty-five of the University's leading research men and women outside of the General College have given much and continually of their time, advice, and service on the technical committees for the adolescent, adult, general education motion picture, and evaluation studies and experiments. Professor Harl R. Douglass for the University Board of Admissions completed and is about to publish the report on his studies of the validity of high school subject-matter patterns as predictive of success in the Gen-

eral College which led to our dropping, with Senate approval, any standard pattern for admission to this college. The University Testing Bureau has not only developed its testing of our students to a high point of co-operative efficiency, but its director taught a course in "Choice of an Occupation" for our students and for them wrote a realistic and searching volume, *Students and Occupations*.

The University Committee on Educational Research has continued over the past two years its joint experimentation and evaluation projects with the college. It has further filled the reservoirs of validated examination questions. It has refined our processes of examination. It has experimented with the testing of the growth of critical thinking, problem solving, and situation analyzing in our students under impact of our general education courses in several areas. It has launched studies of changes in student attitudes, appreciations, and adjustments. And it has assumed responsibility over the next two years of co-operative evaluation of two of our experimental core courses in personal orientation and vocational orientation.

The college staff.—To tie these researches together into a unified pattern; to apply them to student counseling, programming, and problems of transfer; to do experimental teaching in areas not served by borrowed staff; and to assist the borrowed staff in their work for the college, our college staff has been augmented. For the next two years we have added three research co-ordinators to experiment with the building of core courses in each of three areas of adult need outlined in my previous report. The past and present staff have carried on many researches and studies reported in considerable detail in the *Problems and Progress Reports* of 1936, 1937, and 1938, in special mimeographed reports, and in articles in the professional journals.

The renewal of the grant from the General Education Board.—In January, 1938, the General Education Board of the Rockefeller Foundation extended their grant of \$25,000 a year for two years and allotted a further sum of \$6,000 to the University to support in part or in whole a series of publications concerning the General College studies, research, and methods. In general, these funds are to serve three major purposes:

1. To carry to full completion the extensive and intensive studies of General College students and of young adults who formerly were students in the University, to interpret these and to use them in strengthening the personnel and guidance services the college renders to its students, and to make these services ready to carry on effectively when the grant has been spent.

2. To carry further over the two-year period study and experiment in the shaping of the general education curriculum, particularly in the four areas of need.

3. To evaluate fully the whole program of the General College. Towards this end the sum of \$5,000 for each of the two years has been earmarked for evaluation, and after combing the field, we invited Dr. Ruth E. Eckert, research adviser of the Co-operative Test Service of the American Council on Education, to accept the post. This she did. She assumes her duties here on September 1, 1938, for three years, to evaluate the General College during the first two years and the experiment under the direction of Mr. R. A. Kissack, Jr. in the production of motion pictures for general education in the third year.

Personnel studies.—The personnel studies of 1,300 of our General College students (100 of whom were personally interviewed), of 500 transfers from this college, and of 1,400 former university students (200 of whom were personally interviewed) are nearing completion. The data for each are gathered and coded. Many tabulations and some intercorrelations have been made. Case reading will be completed within the next two months. Interpretations will follow as rapidly as the staffs of these studies, the university advisory committees for them, and the staff of the college can make them. The organization and methods used in these studies and

the staffs concerned with them and the, as yet, few publications concerning them have been reported fully in *The General College Personnel Research Studies* issued in May, 1938.

Curriculum revision.—Although revision of the curriculum in general education offered by the college to meet the needs of the youth who come to us cannot be made until we have the full results and interpretations of the personnel studies at our command, we have, nevertheless, moved steadily forward in the revision of present courses and the planning of the development of four core courses in the areas of human need. Over the past two years various committees of the staff have been studying the fundamental bases both in society and in the individuals which compose society—bases upon which a sound curriculum must rest. One committee has been studying and reporting on social trends to the whole staff. Members of the committee are analyzing these trends in terms of their present and potential impact upon youth in college and of youth's present and potential impact upon society. Thus the study of trends in population, particularly in Minnesota and the Northwest, in employment, in delinquency and crime, in political and social action, in divorce rates, in health, in economics of income and consumption, and in threats of war, all can and do give us clues as to the problems youth faces now and must face in the future, and hence problems with which a sound curriculum in general education must concern itself.

Other committees have been studying specific phases of these social trends as they have a meaning for the present and future lives of our students as individuals, as members of families, as job holders, and as responsible members of our democratic society. In our experimental work of the next two years we expect to make full use of these studies in combination with the interpretation of the personnel studies to develop an increasingly effective general curriculum. Meanwhile, intensive effort will go into the use of these studies in building the four core courses in which the General College student hereafter will spend approximately one third of his college time, over the two-year period, the other two thirds to be selected under guidance from our present offerings which are also being revised as the results of our studies become available.

College and staff services to general education.—As the ground swell of general education gains force and momentum, the General College, acting as a proving ground, is increasingly visited by administrators and teachers from this and foreign countries. The members of the staff have been increasingly called into service. The more important and significant of the services are enumerated in the special section of this biennial report devoted to staff honors and public service (pages 141-159). The members of the staff have, furthermore, contributed talks, papers, and consultation services within this state too numerous to mention. We find that these services clarify the thinking of the staff, broaden their vision of their work here and of other members of the college faculty, and increasingly, whatever may be the value of the services they render to those who receive them, bring personal and professional gains to the University of Minnesota.

Respectfully submitted,

MALCOLM S. MACLEAN, *Director*

UNIVERSITY COLLEGE COMMITTEE

To the President of the University:

SIR: I submit my report as chairman of the University College Committee for the biennium 1936-38.

The University College was organized by authority of the Board of Regents in the fall of 1930. Its purpose has been to provide greater flexibility in arranging courses of study adapted to the special needs of individual students than is possible under the more rigid requirements of the other colleges of the University.

Organization and procedures.—The University College is governed by a panel committee composed of twenty members of the university staff who are representative of the various subject-matter fields and professional courses taught in the University. When applying to be registered under the auspices of this committee each student, after consultation with advisers, presents a detailed course of study which he feels is best adapted to his particular interests, abilities, and purposes. A subcommittee, usually composed of three members of the panel committee, considers this proposed program together with all scholastic and personal information which can be gathered with respect to the student. In this connection full use is made of the various student personnel agencies of the University. If this proposed program is approved by the subcommittee and if, after consultation with the students' work committee of the college most nearly concerned with the student's program, there is no possibility of his taking the work in a regular way, the student is enrolled in the University College, his program is made a matter of record with the registrar, and becomes the formal requirement for his graduation.

Although no set rules govern the University College Committee in approving individual programs, its members are guided by the same ideals and standards as have led to the more formal requirements of other colleges of the University. In particular they emphasize the importance of a basic knowledge of the fundamentals in the field of special interest and in one or more related fields. They discourage undue emphasis upon technique courses at the expense of these basic studies. They require that the student in his junior and senior years devote himself largely to work of senior college grade.

Enrolments.—During the past eight years there have been enrolled each year from thirty-five to forty-five new students. About twenty-five students are graduated each year. The majority of students come to us as juniors or seniors when the problem of relating their university curriculum to their purposes in life becomes more vivid and real to them than at entrance. By this time, too, they have a clearer conception of their intellectual interests and of their own capabilities.

Scholarship.—The average scholarship record of students in the University College is about the same as that of the general student body of the University. Some evidence that these students have been benefited by a modification of their program to fit more closely their interests and abilities is given by the fact that their honor point ratio after one year of work in the University College increased from 1.55 to 1.82.

Approximately 30 per cent of the students in the University College who have been graduated have received honors. Examinations for graduations with honors are administered by the Honors Committee of the College of Science, Literature, and the Arts.

An appraisal.—The experience of the past eight years has demonstrated, I believe, the wisdom of providing an agency such as the University College with power to adjust the offerings of the University to the special needs of individual students. Among the reasons given by students who apply to the University College Committee there is none more persistent than that they wish to combine a liberal education with sufficient technical training to give them an intelligent understanding of the specific problems which they expect to meet after graduation. I think it will be recognized that considerations of this sort are precisely those which led to the establishment of our various professional schools. Once established and made custodian of a professional degree these schools have of necessity standardized their curricula in order that their degrees may represent a definite type of training. On the other hand, in our complex and rapidly changing society there are places for men and women with a much more varied combination of fundamental education with technical training than is provided by a small group of specialized professional schools.

The success of the University College plan has been possible only through the cordial co-operation of all colleges of the University. In well over half the cases which have been considered it has been found possible by petition or otherwise to satisfy the students' needs in the regular colleges without recourse to transfer of registration.

Respectfully submitted,

JOHN T. TATE, *Chairman*

SPECIAL EDUCATIONAL UNITS

GENERAL EXTENSION DIVISION

To the President of the University:

SIR: I have the honor to report on the activities of the General Extension Division for the biennium beginning July 1, 1936, and ending June 30, 1938. This summary report covers all departments of the division: the Department of Extension Classes; the Department of Correspondence Study; the Department of Community Service, which includes the University Lyceum, the Drama Service, and the Bureau of Visual Education; the Municipal Reference Bureau; and the university broadcasting service, which operates the university radio station WLB.

Twenty-fifth anniversary.—On June 30, 1938, the General Extension Division completed the first quarter century of its existence as a university unit. The division was organized on July 1, 1913, and has had the same director during the twenty-five year period. In the first organization there was a Department of Class Instruction; one of Correspondence Study; and one devoted to university lectures and the lyceum, later named the Department of Community Service. There was also a Municipal Reference Bureau. The purpose of the extension class system was to give adults the opportunity to pursue courses of study on the college or university level at times and places convenient to the student; in other words, to give men and women who were employed or otherwise engaged during the regular daylight hours an opportunity to pursue worth-while courses of study in the evening. Use was made of downtown public buildings and classrooms on the University campus. Similarly the purpose of the correspondence study system was to enable isolated students who live at distances remote from population centers to pursue courses of study by mail at their own convenience and at their own rate of progress.

It was evident from the beginning that the times were ripe for the new venture. In the two semesters of that first year of 1913, 40 instructors conducted 112 extension classes and the semester registrations totaled 2,015. The following year 161 classes were conducted by 61 instructors and the total semester registration was 3,350. The annual increase was steady until 1917, when the United States entered the war. There followed two years of recession in enrolment, and then a rebound in 1919, when 186 classes were conducted and the total of semester registrations was 5,216. Progress thereafter was uninterrupted until 1932, when economic conditions brought about another recession in enrolment, lasting three years. Present conditions are made clear by the figures for the current biennium, 1936-38. In 1936-37, the division conducted 586 extension classes under 214 instructors and 7,930 individuals made 12,271 semester registrations. In 1937-38, the second year of the biennium, the division conducted 655 extension classes under 245 instructors and 9,940 individuals made 14,204 semester registrations.

The Correspondence Study Department in 1913-14 offered 95 correspondence courses and had 83 registrations active during the year. In 1937-38, the department offered 256 courses and had 1,986 new registrations, but the registrations in force and active during the year numbered 3,632.

In 1923, the University Senate declared that all extension classes in Minneapolis, St. Paul, and Duluth were to be considered as classes in residence. This means much to extension students in those three cities who are candidates for degrees and are expected to meet established residence requirements. In 1922, branch offices, each of which is in charge of a manager for organization and promo-

tion, were opened in downtown Minneapolis, in St. Paul, and in Duluth. Each manager is available for advice and assistance.

During the twenty-five years, extension classes have been held in the following cities: for the entire twenty-five years in Minneapolis, St Paul, and Duluth; for 17 different years in Virginia; for 13 different years in Hibbing and Eveleth; for 10 different years in Chisholm; for 6 different years in Rochester; for 5 different years in Coleraine and Superior, Wisconsin; for 4 different years in St. Cloud, Cloquet, Two Harbors, and Keewatin; for 3 different years in Red Wing and Brainerd; for 2 different years in Mankato, Northfield, Austin, Stillwater, Anoka, Faribault, Thief River Falls, and South St. Paul; for 1 year in Winona, Albert Lea, Owatonna, Bemidji, Ely, Grand Rapids, Crosby, Proctor, Olivia, Staples, and Hopkins.

The record is one of steady, unforced, unspectacular growth. As the public became aware of the opportunity, the response quickened. The most effective means of attracting the attention of the public was the constant reiteration on all appropriate occasions of the philosophy lying back of the extension movement; namely, that education should not cease with formal schooling, that adults from the age of twenty-one to the age of sixty or beyond are capable of learning and of retaining, that the pursuit of knowledge in adult life as an avocational interest is a pleasurable activity adding richness and meaning to mere existence. It is a slow process to inculcate these ideas and this philosophy of life into the minds of busy adults engrossed with strenuous activity in their daily walks of life. Nevertheless, in these twenty-five years amazing progress has been made in persuading the masses of the public to accept their validity. Since 1930, the chaos in which the United States, together with the rest of the world has found itself, has reinforced emphatically the truth that it is not only desirable but necessary for every citizen to keep up his growth in intellectual affairs if he is in any way to understand, much less to direct, the bewildering, contradictory trends of modern life—political, social, and economic.

The anniversary of the League of Minnesota Municipalities.—The League of Minnesota Municipalities also celebrated its twenty-fifth anniversary in June, 1938. Among the original departments of the General Extension Division was the Municipal Reference Bureau. This was organized to help municipal officials in their duties, making researches, compiling model ordinances, and on all matters of municipal interest bringing to the attention of the officers the experiences of other cities. In the pursuit of these activities it was deemed advisable to form an organization of city officials. The director of the Extension Division was instrumental in 1913, in organizing the League of Minnesota Municipalities, an organization in which the membership is held by the corporation itself and is thus not subject to change in personnel.

At the first meeting for organization, the director of the General Extension Division was elected as secretary-treasurer, an office he has held during the entire twenty-five years. Later the league amended its constitution to provide that the chief of the Municipal Reference Bureau at the University should always be the executive secretary of the league. This arrangement, and indeed the entire affiliation with the University, has worked satisfactorily. The University has had the loyal support of these city officers; and the officers and councilmen, among whom the turnover is rapid, appreciate the disinterested and scientific advice which they get through the Municipal Reference Bureau, and also the information and guidance which they receive from the various experts and specialists on the university faculty.

On June 8, 9, and 10, 1938, the league held its annual convention at International Falls and 440 delegates registered from 89 cities, towns, and villages.

The twenty-fifth anniversary was celebrated, but more emphasis was placed on the future than on the past. Municipal officers were warned of their responsibilities and congratulated on the progress already made in raising the standards of efficiency in local government and for their unselfish devotion to community interests. The speakers at the several meetings emphasized the gratitude of the league for all services rendered to it by the University, and stressed that the affiliation with the University was both profitable and effective.

The growth in enrolment.—When the division was founded in July, 1913, the undergraduate enrolment of the University itself had not yet reached 4,000. Since then the total enrolment in all departments has reached 14,000. It is clear, therefore, that the Extension Division has grown with the growth of the University. During those years the desire for college or university education has become a national phenomenon. It is natural that those who are prevented from attending a college or university for economic or other reasons turn for the satisfaction of their intellectual aspirations to that organization of university life which enables them to pursue education as a sideline of their normal employment. Thus these students are enabled to make a living and at the same time to foster and stimulate the growth of a normal, intellectual life.

Learning abilities of adults.—In my last biennial report, I stated that Dr. Herbert Sorenson, then a member of the staff of this division, was extending an investigation previously made on adult abilities of students in extension classes at the University of Minnesota to include also extension class students at six other universities. This completed study was published in June, 1938, by the University of Minnesota Press under the title, *Adult Abilities: A Study of University Extension Students*. The foreword to the book was written by the director of the General Extension Division. The results of this research should provide a great stimulus to the whole adult education movement, as well as to that segment known as university extension. It is demonstrated again that age of itself can no longer be considered a deterrent to the acquisition of new knowledge or new skills, provided the drive of interest is present.

Radio.—During the biennium the University's application for increased power and a new wave length for its station WLB was approved by the Federal Communications Commission. A review of this case and its implications as they pertain to the development of educational broadcasting will be found on pages 55-56 of this report.

The course in embalming.—The course of instruction for embalmers was established by act of the Board of Regents on April 4, 1908. No effective organization was made, however, and the work lapsed until it was resumed during the year 1913-14, in the Medical School. The first session began January 5, 1914, and lasted six weeks. At that time only an eighth grade education was required for entrance to the course. After the second annual session held in January and February, 1915, the course was extended to eight weeks and one year of high school was required for admission. Since then the course has been successively extended to twelve weeks, twenty-four weeks, and in 1932, to nine months; and completion of four years of high school work is now required for admission. Since 1921, the administrative control of the course has been in the General Extension Division. The course is now conducted for three university quarters of twelve weeks each, and draws each year between 75 and 80 students. From one half to two thirds of the students are citizens of Minnesota, and there are regularly students from twelve or fourteen other states.

For a Minnesota embalmer's license the State Board of Health now requires completion of one year of regular academic work prior to entrance upon the

specialized course in embalming. The same rule is in effect in two or three other states. All other schools of embalming in the United States—some fifteen altogether—are commercial or proprietary schools. The National Conference of Embalmers' Examining Boards rates these schools, awarding Grade A to the highest rank and Grade AA to the next highest, and so on down to B and C. The University of Minnesota course has been graded AA. This secondary rating is brought about by two conditions. First, the University of Minnesota is not willing to require one thousand hours of classroom work during the nine months, which is one of the criteria established for a Grade A school. Second, the conference, mentioned above, requires that for each registered student a fee of \$15 shall be paid to the conference. The University cannot be a party to that arrangement, with the result that some three or four states which require completion of a course in a Grade A school for all applicants for a state license have refused even to examine those who have completed the course at the University of Minnesota. It is believed that in the course of time these difficulties will be ironed out. Meantime, the University continues to issue its certificates to those who have successfully completed the course.

EXTENSION CLASSES AND SHORT COURSES, 1936-38

| | 1936-37 | 1937-38 |
|--|--------------|--------------|
| Student registrations, extension classes: | | |
| Collegiate | 7,110 | 8,354 |
| Business | 3,587 | 4,088 |
| Engineering | 1,574 | 1,762 |
| Total | 12,271 | 14,204 |
| Net gain over previous year | 1,587 | 1,933 |
| Summary of fees, extension classes: | | |
| Total | \$132,242.78 | \$155,543.03 |
| Gain over previous year | \$ 18,769.48 | \$ 23,300.25 |
| Total number of extension classes given | 586 | 655 |
| Total number of individuals in extension classes | 7,930 | 9,940 |
| Gain over previous year | 947 | 2,010 |
| Summary of short courses: | | |
| Total number of short courses | 15 | 15 |
| Total number of kinds of short courses | 9 | 11 |
| Number of registrations in short courses | 877 | 913 |
| Total short course receipts | \$17,177.25 | \$16,260.00 |
| Gain over previous year | \$3,159.75 | |
| Loss over previous year | | \$917.25 |

CORRESPONDENCE STUDY

Registrations.—The years 1936-37 and 1937-38 have illustrated the effect of economic changes upon correspondence study registrations. The greatest gain of any year since the "depression" came in 1936-37. The "recession" of more recent date was noticed at once in the reduction of registrations. Some services have remained normal and some, such as the prison enrolment, have registered small gains. This status of affairs has precipitated financial problems since the fee for marking each lesson paper was increased from the depression figure of forty-two cents to the original fifty-cent rate, thus increasing expenditures over \$2,000 a year. Increased promotion expenditures will amount to \$1,000 additional per year. Expenditures for revision of courses have recently averaged more than \$500 per year. This grand total of expenditures, \$3,500 in all, will persist throughout the years and must somehow be relieved.

Analysis of registrants.—With the aid of three NYA students we have been able to make a study of our registration cards for the years 1929 and 1930. The results show that 40 per cent of the students were male and 60 per cent female. The average age of the group was twenty-six, and the registrants averaged about two years of college work. Nearly 80 per cent of them had done some work in college, 6 per cent were graduate students, and the remainder (about 14 per cent) were high school graduates. The students with less than a high school background were few.

About one half of the students (48.7 per cent) finished their courses within fourteen weeks. A higher percentage of completion in the first six weeks is found among the men than among the women. After the first six weeks the women show a higher percentage of completion. Some students, of course, do not finish their work, and our records indicate the largest number of drops in the first six weeks following registration, with the second concentration between six and ten weeks after registration.

In 1929 and 1930, 57.5 per cent of our registrants completed their work. This compares favorably with corresponding percentages of other universities and surpasses the record in some of them. We found no marked correlation between failure to complete the course and such variables as age, occupation, and education. The highest proportion of completions was found in our business and education courses; engineering and English courses were at the other extreme. A large proportion of our registrants were teachers and students.

Stillwater prison students.—The monthly average of continuing registrations decreased from 58 at the close of 1935-36, to 54 at the close of 1937-38, although the average number of lesson papers received per month increased from 38 to 44 in the same period, and the quality of these same lesson papers gained as shown by the fact that the average percentum of "A" and "B" grades rose from 62 per cent to 79 per cent and to 76 per cent for the last two years, respectively. These are exceptional records.

New courses.—Some courses outlive their usefulness and are dropped; at the same time requests for new courses are received. The writing of new courses must be governed by the frequency of the call and by the immediate needs. Changes in certification plans of the State Department of Education have been responsible for a number of new courses; others are introduced because students need courses which will allow them credit either at the University of Minnesota, in the state teachers colleges, or in other universities. Still other courses are prompted by requests from farmers, craftsmen, or other vocational groups. The writing of fifteen new courses was begun in the biennium; 28 were revised; 8 were dropped.

The two courses of the Institute of Child Welfare reached a peak of new registrations, numbering 3,814 in 1930-31. No charge was made for the courses at that time, but on July 1, 1932, a charge of one dollar per course was imposed. New registrations dropped at once to 24 in 1932-33 and the average of the six years from 1932-33 to 1937-38 inclusive was 40 as against 2,642 for 1928-32. New registrations for the two years of the biennium were 44 and 42, respectively.

The Child Hygiene and Maternity free course of the State Board of Health has averaged 449 registrants in the last ten years, 1928-38. The past two years have shown new registrations of 214 and 154, respectively.

University home study work in local high schools.—This college credit work for high school graduates has been extended through 1938-39. Since 1932-33, about 95 persons have entered approximately 20 different colleges with advanced credit as a result of the work taken in the local study units. About half of them have come to the University of Minnesota.

New registrations.—There were 1,909 new registrations in 1936-37 and 1,986 in 1937-38. We are still 8 per cent below the peak of 1930-31 (2,164).

| | 1936-37 | 1937-38 |
|--|---------|---------|
| Registrations: | | |
| Registrations in force beginning of year..... | 1,425 | 1,580 |
| New registrations during the year..... | 1,909 | 1,986 |
| Reinstatements from previous years..... | 58 | 66 |
| Total registrations in force during year..... | 3,392 | 3,632 |
| Expirations..... | 800 | 859 |
| Completions..... | 1,029 | 1,085 |
| Cancellations..... | 114 | 119 |
| Reinstatements..... | 131 | 153 |
| Registrations in force at the close of the year..... | 1,580 | 1,722 |
| Special courses: | | |
| Maternal and Child Hygiene‡ | | |
| Registrations in force beginning of year..... | 28 | 65 |
| New registrations during the year..... | 214 | 154 |
| Reinstatements from previous years..... | 4 | 0 |
| Total registrations in force during the year..... | 246 | 219 |
| Completions without certificates..... | 167 | 28 |
| Cancellations..... | 0 | 129 |
| Certificates issued..... | 14 | 5 |
| Registrations in force at close of the year..... | 65 | 57 |
| Child Welfare‡‡ | | |
| Registrations in force beginning of year..... | 6,052 | 6,091 |
| New registrations during the year..... | 44 | 42 |
| Reinstatements from previous years..... | 0 | 0 |
| Total registrations in force during the year..... | 6,096 | 6,133 |
| Certificates issued..... | 5 | 10 |
| Registrations in force at close of the year..... | 6,091 | 6,123 |
| Summary of all courses: | | |
| Registrations in force beginning of year..... | 7,505 | 7,736 |
| New registrations during the year..... | 2,167 | 2,182 |
| Reinstatements from previous years..... | 62 | 66 |
| Total registrations in force during the year..... | 9,734 | 9,984 |
| Registrations terminating during the year..... | 2,129 | 2,235 |
| Reinstatements..... | 131 | 153 |
| Registrations in force at close of the year..... | 7,736 | 7,902 |
| Individuals enrolled (new registrations): | | |
| Regular courses..... | 1,602 | 1,692 |
| Maternal and Child Hygiene..... | 214 | 154 |
| Child Welfare..... | 44 | 42 |
| Total number of individuals enrolled during the year..... | 1,860 | 1,888 |
| Lesson reports received: | | |
| Regular courses..... | 25,531 | 28,167 |
| Maternal and Child Hygiene..... | 253 | 165 |
| Child Welfare..... | 180 | 81 |
| Total number of lesson reports received during the year..... | 25,964 | 28,413 |
| Geographical distribution of new students: | | |
| Minnesota..... | 1,220 | 1,304 |
| Other states..... | 359 | 376 |
| Outside United States..... | 33 | 12 |
| Number of states represented..... | 34 | 37 |
| Number of foreign countries represented..... | 4 | 3 |
| Courses offered: | | |
| Total number..... | 253 | 256 |
| College courses..... | 213 | 217 |
| Preparatory courses..... | 21 | 21 |
| Noncredit courses..... | 19 | 18 |
| Instructors: | | |
| Number..... | 85 | 89 |

‡ No fee charged for the course in Maternal and Child Hygiene.

‡‡ The fee for each course in Child Welfare is \$1.

| | 1936-37 | 1937-38 |
|---|---------|---------|
| Supervised group study in high schools: | | |
| Group centers | 5 | 3 |
| Courses for which students registered | 39 | 20 |
| Students writing comprehensive examinations | 97 | 41 |
| Club study programs: | | |
| Registrations | 5 | 8 |

RADIO

Among the more important radio broadcast series of the biennium were these:

University Art Gallery.—The gallery has presented weekly programs discussing current exhibitions.

Convocation.—Convocation broadcasts during both terms of the Summer Session and the regular school year have continued to be a popular feature. They have made it possible to present some of the outstanding personalities in the nation.

Child Welfare.—The Institute of Child Welfare broadcasts discussions on child care and guidance.

Literature.—Dr. John W. Powell continued his weekly broadcast on books and authors.

Modern languages.—The Scandinavian Department and the German Department have broadcast half-hour language lessons each week.

World events.—During the spring quarter of 1937 the Departments of Journalism and Economics co-operated in presenting a series of radio interviews, and discussed inflation, unemployment insurance, and foreign trade agreements.

Music appreciation.—For seven years, WLB has broadcast a music appreciation series, prepared and presented by Mr. Burton Paulu. In 1937-38 several members of the Minneapolis Symphony Orchestra appeared on the program to illustrate orchestral instruments.

Other musical broadcasts.—The organ broadcasts by the university organist and guest organists have been continued.

STATE HIGH SCHOOL MUSIC CONTEST

During the past two years the annual high school music contest has regained some of its pre-depression status. The 1937 membership in the Public School Music League totaled 188 schools and in 1938, 206, probably the largest number the contest has ever interested.

In 1937, 83 schools entered the final contest here; in 1938, 90. This is about the average of admissions through eligible ratings from the district contests; and with the present set-up of contest classes, large groups, and chamber-music groups, the number is not likely to increase greatly. This is well, because available facilities would be overtaxed if the number were much larger.

Competition in the final contest embraces all the classes that are now eligible and they take practically all the time available in the day and a half during which Northrop Memorial Auditorium and the Music Auditorium are used. There is time, however, for festival performances in the evening when the pupils sing or play to and for each other, bringing music which has not become worn in the competitive activities.

MUNICIPAL REFERENCE BUREAU

The Municipal Reference Bureau of the General Extension Division and the League of Minnesota Municipalities share facilities and work under one director. This relationship offers a working laboratory in the field of government, combining the theoretical with the practical in a way beneficial to both students and government administrators.

Inquiry service.—One of the important services of the bureau and the league is answering inquiries from local government officials. The variety of subjects covered is indicated below:

| Classification | 1936-37 | 1937-38 |
|--|---------|---------|
| Accounting | 21 | 29 |
| Civil service | 13 | 25 |
| Contracts and petitions | 23 | 25 |
| Elections | 87 | 69 |
| General government | 98 | 120 |
| Health and welfare | 66 | 70 |
| Insurance | 31 | 25 |
| Licenses and permits | 307 | 303 |
| Municipal finance | 104 | 95 |
| Municipal powers and liabilities | 65 | 78 |
| Ordinances and resolutions | 141 | 114 |
| Parks and recreation | 32 | 23 |
| Planning and zoning | 37 | 32 |
| Public safety | 94 | 101 |
| Public utilities | 135 | 81 |
| Public works | 86 | 73 |
| Salaries | 62 | 36 |
| Miscellaneous | 71 | 40 |
| Total | 1,473 | 1,339 |

Publications.—The 1936 edition of the *Minnesota Year Book* contained 298 pages and the 1937 edition 385 pages of financial statistics and other data on state, county, school, city and village, and township governments. Publication costs were financed by the league. It was hoped that the receipts from sales would pay the printing cost but this has not been true and it has now been decided to issue this publication biennially.

The league monthly magazine, *Minnesota Municipalities*, is mailed regularly to about 4,000 municipal officials and 200 other interested persons and agencies.

Field service and conferences.—The league employs a field man who assists municipal officials locally upon request and collects information to be compiled at the bureau. Regional conferences are sponsored to permit persons interested in government to spend a day together discussing local problems and experiences. A state-wide convention held in June was attended by 373 in 1937 and 440 in 1938.

Research and consulting services.—In addition to the inquiry service, special consulting assistance has been rendered. During 1936-37 this included drafting advice on home rule charters for Marshall, Rochester, and Glenwood; revision of zoning regulations for Olivia, liquor control for Rosemount, workmen's compensation for Columbia Heights; and debt refinancing for Kasota, Kenyon, St. Louis Park, and Spicer.

During 1937-38 assistance was given New Ulm on a plan for self-insurance for workmen's compensation, to Fulda on an accounting system for the municipal liquor store, and to Adrian on municipal utility accounting. Several special studies may result in rather comprehensive publications. These are the result of co-operation by the bureau, the league, and postgraduate fellows in the Public Administration Center. One is a survey of police administration and another a study of police and fire civil service—both in Minnesota. Three special memoranda on phases of the civil service problem as it relates to police and fire departments have been prepared by the bureau research assistant. A report on municipal pensions is being run serially in the league magazine and will be reprinted in pamphlet form. Other

studies include revision of model ordinances, a report on state and local co-operation in traffic enforcement, and city planning and zoning procedure.

Civil service examination.—Requests of municipalities for help in examinations prompted the bureau and the league to develop a testing service. Upon the request of the Police Civil Service Commission of Rochester, tests were given to thirty-four candidates. These included oral interviews as well as written tests. A similar service has been rendered for St. Louis Park.

Training schools.—There were two sessions of the Northwest Fire School in 1936-37, in August and the following May. Registrations in August numbered 210 men and in May 185 men from 61 and 57 localities, respectively. The school held in May 1938, was attended by 182 men from 59 localities. An interesting experiment was initiated this year. Approximately twenty-five fire chiefs and instructors participated in a five-day instructors' course under the leadership of N. B. Giles of the United States Office of Education. This is the federal agency which co-operated with the State Department of Education in supervising the vocational education service which is usually rendered through local school districts. It is hoped that our state requirements will be liberalized so that federal aid money may be made available for state departments, the University, the league, and the cities themselves to institute public service training courses.

The second school for police was held in April, 1937, with 70 in attendance from 35 municipalities. The third school, in 1938, had 60 in attendance.

A course for water works operators, inaugurated in 1937 and repeated in 1938, was attended by 54 and 55 men, respectively. In 1938 a short course for sewer works operators followed the water works school, about 20 taking both courses; the total registration was 54.

Some interest has been expressed in a school for councilmen to be held immediately after village elections. Such a school would be helpful in orienting inexperienced men into the duties and responsibilities of their offices. Schools for plumbing inspectors and for clerks and finance officers have also been suggested. If one or two new schools can be developed each year substantial progress will be made and a real need will be met.

Library facilities.—The Municipal Reference Bureau and the league have continued to co-operate in building up the special library on government, although the library has been placed under the administration of the university librarian. All materials received by the bureau and the league are placed in the library if they are of the reference type. Making use of the new research assistant authorized last year, the bureau is developing a research file which will include (a) Minnesota municipal ordinances, (b) model ordinances, (c) opinions and legal decisions, and (d) miscellaneous statistics and other material—all classified according to subject. This file will be the heart of the inquiry service.

CONCLUDING OBSERVATIONS

From the preceding materials, it is evident that during the next decade university extension, as well as other branches of adult education, is bound to engage the attention of an increasing number of adults in the general population. At first glance the number of individuals engaged in university study through extension classes during the year 1937-38 seems large. Yet it must be remembered that within a radius of twenty-five miles of the University, there are now living about 900,000 people. The potentialities for service are great. There are also centers of population in Duluth and on the Iron Range. Among so many people we can

count upon the usual proportion of individuals gifted with college ability. The idea that education is a continuing process is now finding ready acceptance.

Good teachers are peculiarly necessary in university extension. The students in these classes are adults and they are sometimes abnormally sensitive. They are particularly resentful of any signs of condescension or arrogance on the part of the teacher. They are not docile and they assume the pupil-teacher attitude with great difficulty. The technique and methodology of class work is different from that used in teaching adolescents on the University campus. The successful extension teachers are those who learn that lesson early; yet the good teacher is always rare. In university extension the crying need is not for great research workers, keen investigators, or even great scholars. Extension work needs men and women who are thoroughly versed, competent, and up to date in their respective fields, and who also have a rare gift for teaching. Such teachers cannot be obtained unless the University grants them recognition and promotion on their merits as it now does with great scholars and original thinkers. The great teacher also needs encouragement.

It would seem that the next forward step should be to bring the advantages of class instruction on the university level to the outlying towns of the state. This is a difficult matter in Minnesota because the population is definitely congested on the eastern borders of the state. Yet it seems to me that a plan should be worked out, and no doubt will be worked out, for establishing centers of extension teaching in places remote from the University where willing students can be drawn in from a fairly wide area. We must admit at once that it will be an expensive project, since these classes could not be expected to sustain themselves. Yet it seems to those who are responsible for this work that this must be the next necessary step.

The next twenty-five years will have their own tasks and difficulties and will no doubt have their own triumphs and achievements. The goal can never be achieved, but the striving will be worth while.

Respectfully submitted,

RICHARD R. PRICE, *Director*

CENTER FOR CONTINUATION STUDY

To the President of the University:

SIR: I submit herewith my report as director of the Center for Continuation Study for the years 1936-37 and 1937-38.

Attendance data.—The Center for Continuation Study formally began its activities November 13, 1936, under the directorship of Dr. Harold E. Benjamin. The activities of the Center from November 13, 1936 until July 15, 1937, were carried on under his supervision. As his successor, I assumed office on July 16, 1937. During the 19½ months between November 13, 1936 and June 30, 1938, there were conducted under the auspices of the Center 58 seminars, conferences, and institutes, attracting 2,867 registrants of which 2,518, representing over 270 different cities and villages, came from the state of Minnesota. Table I presents a statistical summary of the attendance data.

TABLE I. POSTGRADUATE COURSES AND INSTITUTES, NOVEMBER 13, 1936,
TO JUNE 30, 1938

| | Nov. 13, 1936- JUNE 30, 1937 | Nov. 13, 1936- Nov. 13, 1937 | JULY 1, 1937- JUNE 30, 1938 | Nov. 13, 1936- JUNE 30, 1938 | PER CENT OR AVERAGE |
|------------------------------|---------------------------------|---------------------------------|--------------------------------|---------------------------------|------------------------|
| Number of institutes..... | 24 | 32 | 34 | 58 | ..... |
| Number of registrations..... | 998 | 1,492 | 1,869 | 2,867 | 100 |
| Minnesota..... | 928 | 1,352 | 1,590 | 2,518 | 88 |
| Other states and D.C..... | 66 | 131 | 253 | 319 | 11 |
| Foreign countries..... | 4 | 9 | 26 | 30 | 1 |
| Males..... | 604 | 814 | 1,102 | 1,706 | 59 |
| Females..... | 394 | 678 | 767 | 1,161 | 41 |
| Number on faculty..... | 420 | 580 | 625 | 1,045 | 18 |
| Hours of instruction..... | 926.75 | 1,323 | 1,114.25 | 2,041 | 35 |
| Days of instruction..... | 126 | 202 | 191 | 317 | 5.5 |

Types of institutes.—The 58 institutes are classified by type in Table II. It was not possible to create strictly mutually exclusive categories, and some instances were encountered where it was hard to decide, for example, whether the course ought to be included in the "civic and cultural" group or in the "social welfare" group. There were several instances in which a course might be appropriately classified in two or more of the groups selected. In general, however, the rule of selection followed was that of taking into account the bearing or result of the course as a whole and putting the course in the classification which seemed generally most accurate.

Age and education data.—The application blank used for most of the courses or institutes requests education and age data (Table III). The age and education distribution indicates that over 70 per cent of those registered in Center courses have had some collegiate training and that 55 per cent have at least one college degree. Table III shows also that 80 per cent of those registering for courses at the Center are between the ages of thirty and sixty; 52 per cent of those from whom data were secured are over forty years of age, and only 16 per cent are under thirty.

The incidence of registrations.—Of those who have come to the Center, 32 per cent have been enrolled in courses in the field of education (Table IV). It should be remarked that as the services offered by the Center become better

TABLE II. POSTGRADUATE COURSES AND INSTITUTES BY TYPES, NOVEMBER 13, 1936 TO JUNE 30, 1938

| | EDUCA- TIONAL | MEDI- CAL | CIVIC AND CULTURAL | STATE- MUNICI- PAL FUNC- TIONS | SOCIAL WEL- FARE | TECHNO- LOGICAL | HOS- PITAL ADMIN- ISTRA- TION | COM- MER- CIAL | PHARMA- CEUTI- CAL | TOTAL |
|------------------------------|------------------|--------------|--------------------------|---|------------------------|--------------------|---|----------------------|--------------------------|-------|
| Number of institutes..... | 14 | 14 | 12 | 7 | 3 | 2 | 2 | 2 | 2 | 58 |
| Number of registrations..... | 927 | 397 | 429 | 332 | 129 | 83 | 131 | 328 | 111 | 2,867 |
| Minnesota..... | 861 | 256 | 396 | 324 | 102 | 55 | 117 | 301 | 106 | 2,518 |
| Other states and D.C..... | 65 | 130 | 33 | 6 | 16 | 24 | 13 | 27 | 5 | 319 |
| Foreign countries..... | 1 | 11 | ..... | 2 | 11 | 4 | 1 | ..... | ..... | 30 |
| Males..... | 334 | 392 | 112 | 304 | 10 | 79 | 65 | 320 | 90 | 1,706 |
| Females..... | 593 | 5 | 317 | 28 | 119 | 4 | 66 | 8 | 21 | 1,161 |
| Number on faculty..... | 259 | 329 | 188 | 112 | 26 | 14 | 44 | 35 | 38 | 1,045 |
| Hours of instruction..... | 506.25 | 583 | 300.75 | 206.50 | 142.50 | 52.50 | 37.50 | 167 | 45 | 2,041 |
| Days of instruction..... | 82 | 84 | 54 | 28 | 23 | 7 | 6 | 27 | 6 | 317 |

known to other professional groups, the relative numbers of those attending medical, cultural, technological, and other types of courses ought to increase. The facilities for explaining the Center to those interested in education were at the outset more readily available, and it is natural that educators should respond in great numbers to a new opportunity in their own field.

TABLE III. EDUCATION AND AGE DATA, NOVEMBER 13, 1936 TO JUNE 30, 1938

| | NUMBER OF REGISTRANTS | PER CENT |
|---------------------------------|-----------------------|----------|
| Education data secured for..... | 2,434 | 100 |
| Grammar school | 281 | 12 |
| High school | 380 | 16 |
| College (some) | 412 | 17 |
| College degree | 746 | 31 |
| Advanced degree | 615 | 24 |
| Age data secured for..... | 1,316 | 100 |
| Over 60 | 48 | 4 |
| 40 to 60 | 535 | 48 |
| 30 to 40 | 416 | 32 |
| Under 30 | 317 | 16 |

TABLE IV. ATTENDANCE AT TYPES OF COURSES, NOVEMBER 13, 1936 TO JUNE 30, 1938

| | NUMBER | PER CENT |
|---------------------------------|--------|----------|
| Educational | 927 | 32 |
| Medical | 397 | 14 |
| Civic and cultural..... | 429 | 15 |
| State—municipal functions | 332 | 12 |
| Social welfare | 129 | 4 |
| Technological | 83 | 3 |
| Hospital administration | 131 | 5 |
| Commercial | 328 | 12 |
| Pharmaceutical | 111 | 3 |
| Total registrations | 2,867 | 100 |

Increasing the use of the Center.—The Center idea is still new and its full possibilities are not yet apprehended. Among the important problems to be solved during the ensuing years is that of increasing the use of the facilities available. There seems to be little doubt that if the professional people in the territory tributary, in an academic sense, to the University of Minnesota become aware of what the Center for Continuation Study can do for them, the success of the enterprise is assured. Perhaps the first and most important step to be taken in increasing the use of the facilities is, therefore, to get information to professional persons who might logically avail themselves of the Center's program. To date, the Center has depended almost entirely upon direct mail announcements, well supplemented by publicity in newspapers and in professional publications, the latter generously contributed by the proprietors of such journals. The effectiveness of the direct mail method depends greatly upon the care with which mailing lists are chosen and revised. For the most part, the Center has depended upon interested groups, because it has usually had to use lists furnished by professional persons co-operating in the planning of a course of instruction. As time goes on, lists of a more specific character, which the Center is continually engaged in building for itself, ought to prove more complete, more detailed, more accurate, and consequently more fruitful of results. It is doubtful if any method of reaching prospective enrollees will prove more effective than judiciously prepared direct mail announcements.

A method of giving more rapidly general publicity to the Center program, however, would be by making some provision for discussing educational problems with the leaders of various professional groups throughout the state. Except in an incidental way, little information about the Center has been dispensed in this manner, and, no doubt, as the perfection of the Center's organization makes it possible, much more can be done to increase the usefulness of the continuation study plan by means of direct contact with professional groups in various parts of the state.

Promoting educational efficiency.—Also confronting the Center is the problem of apportioning the available time each year between "new" and "old" institutes. The operation of the Center to date has made it plain that there are some courses or institutes which should be held annually and that there are others which should be held only occasionally. It seems apparent that the former list will tend to become longer as time goes on. At some time in the not distant future, it will be necessary to impose carefully planned restrictions upon the number of annual "repeating" institutes or courses which may be held.

Closely involved with the preceding problem is that of planning the annual programs for institutes which are natural "repeaters" in such a way that there will be continuity for those who wish to attend from year to year and at the same time a satisfactory elementary course for those who come for the first time. This aspect of the problem the Center administration is already encountering. A solution generally applicable to all types of institutes is obviously impossible, but there are, apparently, some principles which can be applied to many different types of courses.

Co-operation of the university faculty.—From a strictly educational point of view, the most important problem and responsibility is that of keeping the instructional efficiency at a high level. The first means of accomplishing this result is, of course, the advantageous use of the members of the university faculty. There is, apparently, nothing to worry about in this regard, because the co-operation from every department of the University's instructional staff has been amazingly prompt and wholehearted. This co-operation I wish gratefully to acknowledge. It will be noted from the tables that in the 19½ months ending June 30, 1938, the Center has used 1,045 separate faculty members. These instructors came mostly from the University. In all, they gave some 2,041 hours of instruction upon 317 separate days. It will be seen from these figures that the total number of instructors for each institute is exceptionally large and that the annual time burden upon each instructor is consequently small. I believe that a continuance of this policy will contribute to the educational efficiency of the Center.

Another way of increasing efficiency is through the selection of students who have uniformity of educational background. Selection of this kind is most difficult to make in institutions like the Center where attendance is casual and where collegiate credit is not offered. By securing well-classified mailing lists of those competent to undertake study at a certain level in various fields, however, the Center staff is gradually making possible a selection on the basis of uniformity of training. I believe this is one of the most important steps in making the Center permanently successful. Involved with this step are, of course, the supplementary steps of developing continuity of programs in those fields where courses are to be offered periodically and of keeping the numbers in each institute at a point where the instruction given each enrollee is most efficient.

The recent gift to the University from the Commonwealth Fund, for post-graduate medical education, is properly matter for the report of the dean of the medical sciences, but it should be stated here that, inasmuch as it is to be ex-

pended largely upon a program employing the facilities of the Center for Continuation Study, it will give valuable experience to the staff of the Center in solving the omnipresent problems of continuity in curriculum, quality in instruction, and uniformity in student background. By liaison through an advisory committee representing all departments of the University, the practise found successful in one educational field may thus furnish clues to the discovery of equally successful practiques in other fields.

"In residence" facilities.—One branch of the Center's service which I should like to see used more extensively is that which provides for individual workers a place "in residence" where they may live while they engage in research or in special postgraduate study. This service is offered to those who find it advisable to come for less than a full quarter, and has been found valuable by the few who have taken advantage of it.

Special meetings at the Center.—Besides those attending regular postgraduate courses and institutes offered at the Center, and in addition to the special students and researchers who have lived here for a time, there have been approximately 3,000 persons who have attended conferences and meetings in the Center during the biennium just ended. These conferences and meetings, usually held under the auspices of the faculties or administrative heads of the various departments of the University or under the auspices of learned societies, have not been formally a part of the Center's program, but have often been academically of equal quality, and in all instances have served to give the Center and its work a wider and more distinguished acquaintance. All in all, the building has thus been host to about 6,000 persons from its opening November 13, 1936 to June 30, 1938.

In general, I believe it may be said with truth that the Center for Continuation Study is finding, and will continue to find, its greatest usefulness as a sort of graduate school of the adult education movement, refurbishing for them individually and collectively the age-tarnished tools of those who profess the ancient learnings or the complicated modern skills. This work it is uniquely fitted to do; and this work unquestionably needs to be done in our day of ever changing techniques.

Respectfully submitted,

J. M. NOLTE, *Director*

SUMMER SESSION

To the President of the University:

SIR: I submit the following report of the Summer Session for the period from July 1, 1936 to August 30, 1938.

Changes and improvements in the curriculum.—In the 1938 Summer Session short unit courses of two weeks' duration in the College of Education have been added to the curriculum. These courses offer the following advantages:

1. A two or three weeks' short unit course makes outstanding instructors and lecturers available who otherwise would not come for the whole term.
2. A short unit course makes it convenient for the students, particularly those who are administrators, to attend the University of Minnesota Summer Session during their vacation which is usually limited to thirty days.

The curriculum has been extended and amplified by the following:

1. Guidance and personnel courses.
2. More demonstration work at the Tuttle School where the staff of demonstration teachers has been increased from four to ten.
3. A course in higher education.
4. The extension of courses in educational administration with particular reference to institute problems.
5. More guest or visiting instructors, notably through a lecture series entitled "Education and Democracy" in 1938. This series will be changed in character each summer, but will bring outstanding people into contact with our state and our students.

Special features.—With the creation of the Center for Continuation Study, institutes and short courses formerly conducted by the Summer Session have been transferred to this division. These institutes in part were arranged to parallel special courses of study in the regular Summer Session and to accommodate those students who could not spare time for a full six weeks' course of study.

In 1937, the Center conducted an institute in general education with particular attention to current developments in secondary and higher education in a democratic society, and also an institute in guidance which dealt with plans, techniques, and interpretations.

A one-day conference on educational planning was held during the 1937 session. This was sponsored jointly by the University of Minnesota and the Educational Policies Commission.

During the 1938 sessions the Center conducted a five-day conference on personnel procedure, with emphasis upon measurement, counseling, and group guidance; also a five-day institute on personnel and guidance and an institute on curriculum. The staff of the Summer Session co-operated in these institutes.

A new course in radio education and a new course in visual education were introduced in 1938.

Recreation program.—The usual recreation program of athletics, Friday social evenings, and educational excursions, was offered.

Drama and music.—Three dramatic productions were staged in the first term of each Summer Session, and dramatic readings were given by guest readers.

The Federal Music Project furnished free symphony concerts through the medium of the Twin Cities Civic Orchestra and the Minnesota Symphony Orchestra to audiences of approximately two thousand persons.

The Tuesday afternoon and Thursday afternoon lectures and the Wednesday music recitals continued through the biennium with audiences from one to five hundred.

Registration problems.—One major problem is the rapid growth in enrolment, especially in the more advanced courses which require a specially trained teaching

staff. For the past ten years the Graduate School has been one of the most rapidly growing units of the Summer Session, and at present its registrations represent approximately 30 per cent of the Summer Session enrolment. The Graduate School increase in the past biennium is nearly 20 per cent above the enrolment in 1936.

SUMMER SESSION REGISTRATIONS, 1936 AND 1938

| COLLEGE | FIRST TERM | | SECOND TERM | |
|---|------------|--------|-------------|--------|
| | 1936 | 1938 | 1936 | 1938 |
| General College | 20 | 16 | 3 | 4 |
| University College | 11 | 7 | 7 | 4 |
| College of Science, Literature, and the Arts | 697 | 820 | 261 | 371 |
| Institute of Technology | 122 | 253 | 95 | 162 |
| College of Agriculture, Forestry, and Home Economics | 189 | 246 | 22 | 28 |
| Forestry and Biological Station ..... | ..... | ..... | 46 | 47 |
| Law School ..... | ..... | 3 | ..... | 1 |
| Medical School | 296 | 277 | 253 | 262 |
| Department of Medical Technology ..... | ..... | 31 | ..... | 14 |
| School of Nursing | 383 | 436 | 345 | 416 |
| Department of Public Health Nursing ..... | ..... | 105 | ..... | 39 |
| School of Dentistry | 77 | 62 | 40 | 47 |
| School for Dental Hygienists | 8 | 3 | 6 | 3 |
| College of Pharmacy | 11 | 26 | 9 | 22 |
| College of Education | 1,577 | 1,656 | 403 | 428 |
| School of Business Administration | 72 | 128 | 40 | 85 |
| Graduate School | 1,420 | 1,676 | 653 | 967 |
| Total collegiate | 4,883 | 5,745* | 2,183 | 2,900† |
| Nursery School and Kindergarten | 25 | 32 | ..... | ..... |
| University High School | 122 | 135 | ..... | ..... |
| Elementary Demonstration School | 188 | ..... | ..... | ..... |

* This represents a net increase of 17.5 per cent.

† This represents a net increase of 32 per cent.

The registration in the College of Education represents about 27 per cent of the total enrolment, and the remaining 43 per cent of the registration is distributed throughout the major divisions indicated in the table.

The Summer Session is now confronted with the problem of maintaining its graduate staff at the high standard which has been maintained in the past. An increase in enrolment in the Graduate School calls for a greater proportion of the staff in the higher salaried brackets. Other summer schools are experiencing the same increases in their graduate schools and are, therefore, bidding for many of our members of the graduate staff in the summer months, which makes it necessary each year to import a larger visiting staff. This creates a many-sided problem.

Registration in the second term is now about 40 per cent of the registration in the first term, in contrast to about 30 per cent in 1931. As we are able to increase the course offerings of the second term, it appears we are able to increase the registration in the second term. It is probable that were we able to make the offerings of the second term as varied and attractive as those of the first term, we would, in time, be able to balance the registration equally between the two terms. The overhead expense of operating the second term does not decrease in proportion to the enrolment, and, therefore, it would be better economy to encourage larger enrolment in the second session.

Respectfully submitted,

THOMAS A. H. TEETER, *Director*

DIVISION OF LIBRARY INSTRUCTION

To the President of the University:

SIR: I submit a summary report of the activities of the Division of Library Instruction for the biennium 1936-38.

The first decade.—The division completed its tenth year with the academic year 1937-38. In this period, 1,914 students have enrolled for one or more library training courses in either the regular or summer sessions; the number completing a full year of library training is 515. Of these, 90 graduated as registrants in the College of Education, and the other 425, with less than a half dozen exceptions in University College, were registered in the College of Science, Literature, and the Arts.

A large proportion of the part-time students have been teachers attending Summer Session or candidates for positions in school libraries, who took enough work to permit them to meet the minimum requirements of the State Education Department for such positions. The Summer Session students have attended in such numbers and with so little prior indication of their attendance that our facilities for taking care of them have been seriously taxed. It may become necessary to consider limiting their numbers.

Staff needs.—There is urgent need of additions to the instructional staff. Starting as essentially a state function, the services of the division have rapidly become nonlocal. During the biennium, students have registered from twelve states, the Canal Zone, Canada, and Norway. They have registered from thirty-nine colleges and universities and fourteen teachers colleges. Our records of positions held are incomplete; nevertheless, we have information of positions obtained during the biennium in eighteen states, the District of Columbia, and Canada.

Restriction of admissions.—The professional requirements for librarians, as for teachers, are steadily advancing. Candidates for library positions who do not have a full college course prior to their strictly professional training are finding themselves increasingly handicapped in the competition for positions. Such preparation is strongly advised in our circular of information, but is all too often disregarded. As soon as administrative and educational conditions in the state permit, the restriction of admission to college graduates should be seriously considered for the division. It may be difficult generally to restrict admission to students in state universities, but there is neither justice nor kindness in placing admission requirements so low that apparent liberality in admission will lead to inevitable disappointment on the completion of any professional course. Such disappointment almost invariably turns into reproach of the institution permitting it, no matter how specific the advice given the student before registration has been. Such reproach is an educational liability.

Respectfully submitted,

FRANK K. WALTER,

*University Librarian and Director,
Division of Library Instruction*

INSTITUTE OF CHILD WELFARE

To the President of the University:

SIR: I submit the report for the Institute of Child Welfare for the biennium 1936-38. During this period the institute continued the four main lines of activity that were described in my report for the biennium 1934-36.

The Nursery School and Kindergarten.—The Nursery School and the Kindergarten were in session during the academic years and during the first term of each Summer Session. Throughout the academic year the Nursery School had a full enrolment of 36 to 38 children with some decrease in the summer, and the kindergarten enrolment varied from 11 to 18 children each term.

Research.—Nineteen new research projects were undertaken during the biennium.

Table I presents a summary of all institute research projects, classified according to the university departments co-operating.

TABLE I. SUMMARY OF RESEARCH PROJECTS BY DEPARTMENTS

| | New during Biennium | Total |
|--|------------------------|-------|
| Anatomy ..... | ..... | 28 |
| Dentistry ..... | ..... | 7 |
| Pediatrics | 1 | 21 |
| Psychology | 1 | 20 |
| Home Economics ..... | ..... | 9 |
| Physiological Chemistry ..... | ..... | 2 |
| Education ..... | ..... | 11 |
| Sociology | 1 | 18 |
| State Board of Control ..... | ..... | 7 |
| Physical Education for Men | 1 | 1 |
| Physical Education for Women ..... | ..... | 1 |
| Institute of Child Welfare | 15 | 176 |
| | | 301 |
| Less duplication caused by projects in which two or more departments are involved | | 15 |
| Total | | 286 |

Of the 286 projects started since the inception of the institute, 187 have been completed, 37 are in progress, 14 have been combined with other projects, 47 have been dropped, and 1 has been divided into several projects. Of those completed, results have been published for 130, there has been partial publication for 4, 13 are in press, 9 are in preparation for publication, 15 are in thesis form but being made ready for publication, and 16 have been completed without publication.

Instruction and enrolments.—Courses are offered at three levels: general courses for undergraduates, specific training courses for nursery school and kindergarten teachers, and courses for graduate students looking toward college teaching, research, or parental education. During 1936-37, the total enrolment in institute classes was 1,914; in 1937-38, it was 2,128.

During the biennium, 62 students completed the curriculum in nursery school and kindergarten education and received the B.S. degree in the College of Education. Three students with majors in child welfare received Ph.D.'s and thirteen with majors received M.A.'s.

Parent education.—The parent education program was continued in line with the policies and activities described in previous reports. Table II shows a steady growth in the use of institute facilities by the people of the state.

TABLE II. GENERAL SUMMARY OF PARENT EDUCATION ACTIVITIES

| | 1936-37 | | 1937-38 | |
|------------------------------------|------------|-----------|------------|-----------|
| | No. Groups | Enrolment | No. Groups | Enrolment |
| Extension courses: | | | | |
| Credit | 6 | 78 | 7 | 94 |
| Correspondence study courses: | | | | |
| Credit | | 27 | | 36 |
| Noncredit | | 695 | | 152 |
| Study groups: | | | | |
| Minneapolis | 13 | 251 | 17 | 416 |
| St. Paul | 4 | 109 | 8 | 142 |
| Other places | 4 | 126 | 6 | 142 |
| Lecture series: | | | | |
| Minneapolis | 4 | 313 | 12 | 1,003 |
| St. Paul | 5 | 594 | 1 | 135 |
| Other places | 1 | 548 | | |
| Agricultural extension | 122 | 1,853 | 177 | 2,891 |
| Preparental groups (schools) | 7 | 935 | 10 | 1,225 |
| Radio listening-in groups | 8 | 91 | 0 | 0 |
| Grand total | | 5,620 | | 6,236 |

Radio.—The weekly institute radio program known as the "Betterson Family" was continued over WLB, the university station, and was rebroadcast during 1936-37 and 1937-38 over both KSTP in Minneapolis and St. Paul, and WEBC in Duluth, and in 1937-38 over KGDE at Fergus Falls. During 1936-37, listening-in groups were organized in co-operation with the Minnesota Congress of Parents and Teachers.

Parents' Consultation Service.—The purpose of the Parents' Consultation Service is the assistance of parents in problems of child adjustment and family relationships, through diagnosis, interview, and recommendations. In 1936-37, 43 cases, and in 1937-38, 58 cases were cleared.

Publications.—In 1937 the institute issued a supplement to its *Annotated Bibliography* which listed the 99 scientific papers and monographs, the 60 popular articles, and the 12 leaflets that have appeared since the original bibliography was published in 1934. During the biennium in addition to some 28 articles which appeared in scientific periodicals, two monographs were published by the University of Minnesota Press in the Child Welfare Monograph Series: *The Development of Children's Concepts of Causal Relations*, by Jean Marquis Deutsche, and *The Development of Linguistic Skill in Twins, Singletons with Siblings, and Only Children*, by Edith A. Davis. Six additional monographs are now in press. Publication has been markedly facilitated by a special appropriation of unused balances made for publication purposes by the Spelman Fund.

Other activities.—During the biennium the institute participated in many exhibits, of which the most important were those at the Minnesota State Fair. In 1936-37 and in 1937-38, 270 lectures—both popular and scientific—were given by members of the staff to various groups, societies, and organizations. Traveling libraries were supplied to study groups as in previous years.

Members of the staff co-operated with the state WPA office in the conduct of the emergency nursery school and parent education program fostered by the Federal Government.

Conclusion.—Through its research, its extensive program of parental and preparental education, its courses for university students, and its consultation service for parents, the institute continues to serve the parents and children of Minnesota. The special grants made by the legislature in 1935 and 1937 for the continuance of the institute bear witness to its high reputation within the state, while contributions made by former students in important positions in every section of the United States and the increasing recognition of its research studies and publications, testify to its national reputation.

Respectfully submitted,

JOHN E. ANDERSON, *Director*

COMMITTEE ON EDUCATIONAL RESEARCH

To the President of the University:

SIR: I beg to report for the Committee on Educational Research for the biennium 1936-38.

It is fitting first to acknowledge the distinguished leadership which the late Dean M. E. Haggerty gave to the University Committee on Educational Research. He was chairman of the committee from the time of its first appointment in 1924 to the time of his death in October, 1937. Dean Haggerty, with the co-operation of the members of his committee, made a significant contribution to the development of the educational program on this campus, and gave impetus to the scientific investigation and systematic exploration of the problems of higher education in other institutions. He did much to give the field of higher education status in programs of graduate study.

The members of the committee in 1937-38 were as follows:

Frederic H. Bass, professor of municipal and sanitary engineering and chairman of the Department of Civil Engineering; F. Stuart Chapin, professor, chairman, Department of Sociology, and director of the Graduate Course in Social Work; Walter C. Coffey, dean and director of the Department of Agriculture; Guy Stanton Ford, dean of the Graduate School, acting president for 1937-38; Everett Fraser, dean of the Law School; Edward M. Freeman, dean of the College of Agriculture, Forestry, and Home Economics; Palmer O. Johnson, professor of education; William F. Lasby, dean of the School of Dentistry; Samuel C. Lind, dean of the Institute of Technology; Irvine McQuarrie, professor and head of the Department of Pediatrics; Donald G. Paterson, professor of psychology; Russell A. Stevenson, dean of the School of Business Administration; John T. Tate, dean of the College of Science, Literature, and the Arts; Malcolm M. Willey, university dean and assistant to the president; T. R. McConnell, professor of education, *Chairman*.

Summary of studies.—The table shows the number of studies conducted under the auspices of the committee since its organization. The number of investigations could have been expanded in several of the broad classifications. For example, all of the studies in articulation which have been conducted under the Board of Admissions, a subcommittee of the University Committee on Educational Research, have been grouped together and counted as one investigation. The table also gives the amount allotted and the per cent of the total appropriations in each of these general areas since 1931. Incomplete records for previous years make it difficult to estimate the total allotments in each area since the committee's organization.

SUMMARY OF STUDIES CONDUCTED UNDER AUSPICES OF THE UNIVERSITY COMMITTEE ON EDUCATIONAL RESEARCH, 1924 TO 1938

| AREA OF RESEARCH | TOTAL NUMBER OF STUDIES CONDUCTED | AMOUNT ALLOTTED SINCE 1931 | PER CENT OF TOTAL BUDGET ALLOTMENT SINCE 1931 |
|---|--|-------------------------------------|--|
| Administration | 6 | \$ 4,115 | 3.82 |
| Alumni | 2 | 1,659 | 1.54 |
| Articulation | 11 | 22,530 | 20.90 |
| Examinations and measurements | 12 | 47,480 | 44.05 |
| Higher education | 6 | 2,350 | 2.18 |
| Instructional | 21 | 7,005 | 6.50 |
| Library | 2 | — | — |
| Physical education and recreation | 1 | 20,350 | 18.87 |
| Student personnel | 13 | 2,300 | 2.14 |
| Total | 74 | \$107,789 | 100.00 |

During this period, sixteen major divisions in the University have co-operated with the committee, and thirteen departments have participated in studies of especial interest to them. Certain studies, such as those on teaching load, class size, etc., have involved the University as a whole.

Administrative problems.—A mimeographed report has been prepared on graduate assistants at the University. It includes data on the recruitment, selection, assignment, reappointment, and stipends of assistants, and on their duties. It also presents information concerning the ratio of assistants to academic personnel in the several ranks, and a comparison of these ratios with those in certain other universities; a summary of the nonacademic staff in departments and divisions; and the assistantships held by persons who received Ph.D. degrees between 1931 and 1937. This was followed by an investigation of the training, tenure, new degrees, recent registration in the University of Minnesota Graduate School, and scholarly publications of staff members with rank of instructor.

Board of Admissions projects.—The Board of Admissions is bringing to completion in 1937-38 a series of studies initiated in 1932, the specific purpose of which has been to determine methods of predicting academic success in the following divisions of the University: Law School, Medical School, College of Pharmacy, School of Dentistry, School of Business Administration, College of Education, College of Science, Literature, and the Arts, General College, and College of Agriculture, Forestry, and Home Economics.

The investigation in the College of Science, Literature, and the Arts was directed by Dr. E. G. Williamson; that in the College of Agriculture, Forestry, and Home Economics by Dr. Palmer O. Johnson; and the remainder by Dr. Harl R. Douglass. In addition to the principal studies, which are now being prepared in manuscript form, certain other minor investigations have been conducted; namely, (1) a study of the relationship between type of housing and marks in the various divisions; (2) a technique for transmuting marks from other institutions of higher education into measures comparable with marks given at the University of Minnesota; (3) a study of relative achievement of students transferring from the junior colleges and those whose lower division residence was in the University; (4) a preliminary study for the development of indices for transmuting marks from various high schools into comparable standards.

Examination studies.—During the biennium the committee continued to co-operate with the General College on its examination program. With the aid of research assistants and the co-operation of the members of the staff who acted as counselors, midquarter and final examinations were prepared for nearly all the courses offered by the college. Comprehensive examinations were also prepared in all the areas. In addition, the committee was responsible for the scoring of examinations and the preparation of grade reports. Reliabilities were determined for many of the examinations. Item analyses were made for most of the tests and the data recorded in the files of examination items which the committee has developed over a period of years. In 1937-38 a proportion of the examination allotment for the General College was set aside for research studies. The policy adopted was to utilize as far as possible data already collected in the General College examination program, or data which could be secured in connection with the current year's testing. Several of these investigations were abandoned, however, either because the data turned out to be unavailable, or because they had not been collected in a form to make them valuable for the purposes in mind. The following studies, however, have been completed or are in the process of completion: (1) study of critical thinking; (2) evidence of measurement of differential objectives; (3) studies in

examination reliability and validity; (4) the measurement of growth in learning of students in general biology; (5) the effectiveness of certain visual aids in instruction in physical science; and (6) relative ability of General College students and those in other colleges in functional knowledge of science principles.

The committee at its meeting June 9, 1938, decided to discontinue the service aspects of this program, and therefore recommended to the administration that a reasonable allotment covering such service should be transferred to the budget of the General College. At the same time the committee approved on a research basis intensive evaluation studies in two of the new core areas of the General College curriculum.

During 1937-38, statistical analyses have been conducted to secure data concerning reliability and validity of the qualifying examinations which have been in use in the College of Education. This study is still in process and will be completed during 1938-39.

For several years, examination studies have been conducted in ten different courses in the Department of Mechanical Engineering. These were brought to completion during 1937-38.

Studies in the development of reading comprehension tests in German were terminated during 1936-37 and reports of the investigation are in the files of the committee.

The mathematics examination study included the preparation and analysis of approximately twenty-seven tests administered in 1936-37 to Mathematics 1 (Higher Algebra) classes and those given in 1937-38 to Mathematics 4 (Trigonometry) classes. The purpose of the project was to develop experimental items which would improve the reliability and validity of the examinations and increase the range of objectives tested.

The experimental development of examinations in the Department of Zoology, begun in 1934, culminated in 1936-37 in the development of final course and comprehensive examinations for General Zoology and also a comprehensive practical examination over laboratory instruction. The availability of these experimentally evaluated examinations made it possible during 1937-38 to conduct a rigorous investigation of the value of student drawings in the zoological laboratory. The results of this investigation will undoubtedly materially change the instructional procedures in the course.

The development of objective examination techniques in Preventive Medicine and Public Health was terminated during the year 1936-37.

During 1936-37, eight examinations were constructed for the new course "Introduction to Physical Science" with the purpose of measuring a variety of instructional outcomes including tests on understanding of scientific method and the measurement of scientific attitudes. A study was also made of the comparative achievement of students in the Introduction to Physical Science course and the General College Physical Science class during the fall quarter.

The development of comprehensive examinations for the School of Business Administration, begun in 1934-35, terminated in 1936-37.

Personnel studies.—A follow-up study of graduates of the University covering the years 1928 to 1936 and including an investigation of their occupational placement and financial success, was completed during 1936-37.

At the request of the Committee on Social Science Personnel of the Social Science Research Council, which was conducting a preliminary survey of graduate work in social science at 12 universities, the committee undertook a somewhat more elaborate investigation of this problem at the University of Minnesota than was

outlined in the original request for information. It included a discussion of the organization of the Graduate School, admission to graduate study, degree requirements, guidance of graduate students, nature of the departmental offerings, adaptation of instruction to students with varying professional and academic interests, the extent of interdepartmental study, and training in tool subjects.

Curriculum and instructional problems.—A curriculum study in the Division of Forestry of the College of Agriculture, Forestry, and Home Economics has been in process for two years and will be continued during 1938-39.

The Science Prerequisite Study in Food Preparation and Nutrition courses in the Division of Home Economics, which has been conducted for several years, was brought to completion in 1937-38 and the data are being analyzed for the final report. This investigation has included the following three distinct phases: (1) vocabulary analyses of the prerequisite courses in biological sciences and chemistry, and of the sequent courses required for home economics students; (2) a comparison of achievement of students in home economics courses who had taken prerequisite science in the General College and those who had been prepared in the science courses offered in the College of Science, Literature, and the Arts and the Medical School; (3) the development of new measures of achievement for the home economics classes involved in the investigation.

The committee was requested in 1937-38 to conduct a study of the relative achievement of laboratory and nonlaboratory classes in freshman composition in the College of Science, Literature, and the Arts. It was necessary, however, to develop a new method of measuring expository writing and this problem constituted the work of the year. In 1938-39 the committee expects to return to the original instructional problem.

The study of physical education and recreation in two Minnesota communities has been continued throughout the biennium. The purposes of this project are (1) to improve physical education and community recreation in the two communities; (2) to develop principles and techniques whereby other schools and communities may improve their leisure time programs; and (3) to provide a basis for the reorganization of curricula for the preparation of teachers of physical education in the University. A mass of valuable data has been collected and during 1938-39 analyses will be made and manuscripts prepared for publication.

Evaluation of graduate schools.—An exploration of the possibility of evaluating graduate schools through a composite measure of the success of the persons who have received the doctorate has been made at the University of Chicago with funds transferred from the committee. The investigation was confined to instructors in institutions within the North Central Association. The composite criterion of success used included data concerning salary, academic rank, departmental headships, publications, membership in learned societies, and participation in programs of these organizations.

Committee procedure.—As has been true of the committee's work throughout its history, special subcommittees, including members of the committee and staff personnel from the divisions where studies were being made, have been created for the general supervision of the projects. One member of the staff has ordinarily been designated as the director of the investigation, and graduate students and other members of the staff have conducted the research.

An attempt will be made in 1938-39 to bring before the interested members of the staff of the University the results of the committee's investigations, which should materially influence the conduct of the institution's educational program either

within specific departments or divisions or within the University as a whole. It is clear that through the greatest possible participation of members of the staff, through the investigation of significant educational problems, and through the dissemination of the results of research throughout the University, the largest possible contribution of the committee will be made. The committee feels that projects of peculiar importance to individual departments or divisions should be encouraged, but also that researches of broad significance to the University as a whole should be formulated and conducted over a period of time sufficient to secure worthwhile results.

Respectfully submitted,

T. RAYMOND McCONNELL, *Chairman*

UNIVERSITY WORK-RELIEF PROGRAM

To the President of the University:

SIR: This report covers the significant aspects of the University's work-relief program during the biennium 1936-38.

The work-relief program has two divisions: (1) the student work projects supported by funds from the National Youth Administration, with a supplement from the Executive Council of the State of Minnesota; (2) a "white collar" program, for nonstudents, supported by the Works Progress Administration, and designed to provide research or other supplementary assistance to members of the staff and departments.

NYA PROGRAM

Funds available.—There have been only minor changes in policy and procedures affecting the NYA program during the biennium. In general, the program operates as described in the work-relief reports for 1932-34 and 1934-36. This report, therefore, is a continuation of the two that have preceded it.

For 1936-37 the University received from the National Youth Administration a basic allotment of \$19,995 a month, for a period of nine months covering the academic year, for use in the student aid program. This was based on a quota of 1,333 students, representing 12 per cent of the registration of the University in October, 1934. For each student in the quota, an allotment of \$15 a month was made. Because of severe drouth conditions in some sections of the state, the NYA later granted Minnesota colleges a supplementary allotment for the academic year, of which the University's share was \$5,010 a month. In addition, a monthly NYA allotment of \$2,170 was received for student aid at the graduate level; this quota was based on the number of graduate degrees granted during 1934-35. The net monthly total of these federal grants was \$27,175. To supplement the program, the State Executive Council made a monthly allotment of \$3,365 to the University. The total available for the student program during the academic year was thus \$274,860.

In 1937-38 the NYA quota was reduced by basing it upon 8 per cent of the university enrolment in October, 1936, and including only individuals under the age of twenty-five. Aid to graduate students was continued, but was drawn from the general quota. The monthly allotment, based on a quota of 943 students, was \$14,145. Later this was increased by 80 students, or \$1,200. The total federal monthly grant was thus \$15,345. In 1937-38 the State Executive Council again made a special supplementary appropriation, of which the University's share was \$2,750 a month for the nine-month period. The total work-relief funds for student aid amounted to \$162,855 for the academic year, in contrast to \$274,860 for the preceding year.

Numbers aided.—The regulations of the NYA permit some flexibility in making student appointments. Undergraduates may receive up to a maximum of \$20 a month, and graduate students up to \$40, with the stipulation that graduate appointments must not average over \$30 a month, and all appointments must average not over \$15 a month. During 1936-37 the average number of students receiving the federal aid was 1,570 per month. In 1937-38 it was 1,047. The state supplement was to increase by \$5 a month the stipends of certain undergraduate students, thus making a maximum of \$25 a month possible. The state supplement was used, in general, for non-Twin City students.

As in previous years, a portion of the University quota was assigned during the fall and winter terms to the schools of agriculture. The allotments were as shown in Table I.

TABLE I. NYA AND STATE AID QUOTAS OF SCHOOLS OF AGRICULTURE, 1936-38

| | FEDERAL FUNDS | | STATE FUNDS | |
|--|---------------|---------|-------------|---------|
| | 1936-37 | 1937-38 | 1936-37 | 1937-38 |
| Central School, St. Paul..... | 93 | 40 | 30 | 17 |
| West Central School, Morris | 93 | 38 | 30 | 19 |
| Northwest School, Crookston..... | 78 | 38 | 25 | 19 |
| North Central School, Grand Rapids | 16 | 9 | 5 | 5 |
| Total | 280 | 125 | 90 | 60 |

Each school received a monthly allotment from federal funds equal to its quota multiplied by \$15, and from state funds equal to its quota multiplied by \$5, and students were given aid within the limits of this aggregate sum in conformity to the regulations that applied for the University as a whole. No sessions are held at the schools in the spring quarter, and the quotas reverted to the Main and Farm campuses.

Distribution of funds.—As indicating the distribution of the appointments, and the use of the funds, Table II is included, analyzing the NYA payroll for the period April 17 to May 16, 1938. There were 988 students receiving aid at the time, of which 526 were getting a combination of state and federal funds; 462 were receiving the federal funds only. By action of the Board of Regents, the NYA students may pay tuition in installments within any one quarter, but cannot enter upon a new quarter's work until obligations of the previous quarter have been met. This permits the federal students to pay for tuition out of their earnings. Of the 988 students in Table II, 556 were paying in installments.

TABLE II. DISTRIBUTION OF NYA APPOINTMENTS, APRIL 17 TO MAY 16, 1938, BY FUNDS

| STUDENTS RECEIVING FEDERAL AND STATE FUNDS | | STUDENTS RECEIVING FEDERAL FUNDS ONLY | |
|--|--------------|---------------------------------------|--------------|
| Amount | No. Students | Amount | No. Students |
| \$5 state and \$ 5 federal | 25 | \$10 | 104 |
| \$5 state and \$10 federal | 98 | \$15 | 300 |
| \$5 state and \$15 federal | 169 | \$20 | 58 |
| \$5 state and \$20 federal | 234 | | |
| Total | 526 | Total | 462 |

Although there will be monthly variations, the data of Table II are typical of the prevailing basis of appointment.

Selection of students.—NYA appointments are for the academic year, and cancellations are relatively few. In 1937-38 there were 212, including students who graduated during the course of the year, cases of illness, inability to meet expenses even with aid, and a small number of scholastic deficiencies. Fifty-four of these cancellations were at the schools of agriculture, where the economic selection was especially adverse. Because of the careful selection at the outset, the academic records of NYA students are excellent. No NYA students are appointed who

TABLE III. DISTRIBUTION OF FEDERAL AID STUDENTS BY COLLEGE, CLASS, AND SEX 1937-38*

| COLLEGE | 1938 | | 1939 | | 1940 | | 1941 | | UN- CLASSED | | GRAD- UATE | | NURS- ING | | EMBALM- ING | | TOTAL | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|----------------|-------|---------------|-------|--------------|-------|----------------|-------|-------|-------|-----|-----|
| | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | M | F | | |
| Science, Literature, and the Arts | 20 | 10 | 32 | 27 | 87 | 51 | 60 | 61 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 199 | 149 |
| Education | 12 | 18 | 18 | 25 | 6 | 5 | 3 | 2 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 39 | 51 |
| Technology | 28 | 0 | 46 | 0 | 58 | 1 | 56 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 188 | 2 |
| Agriculture | 20 | 7 | 52 | 9 | 53 | 13 | 33 | 9 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 158 | 38 |
| General | 0 | 0 | 1 | 1 | 2 | 1 | 4 | 5 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 7 | 7 |
| Medicine | 2 | 0 | 7 | 0 | 13 | 0 | 3 | 6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 25 | 0 |
| Medical Technology | 0 | 0 | 0 | 3 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0 | 3 |
| Business Administration | 17 | 0 | 27 | 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 44 | 4 |
| Law | 6 | 0 | 4 | 0 | 4 | 0 | 18 | 0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 32 | 0 |
| Dentistry | 2 | 0 | 7 | 0 | 0 | 0 | 1 | 0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10 | 0 |
| Dental Hygiene | 0 | 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0 | 4 |
| University College | 0 | 0 | 2 | 1 | 0 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | 2 |
| Pharmacy | 2 | 0 | 3 | 0 | 2 | 0 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 7 | 0 |
| Graduate ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 10 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 10 | 1 |
| Nursing ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0 | 1 | ..... | ..... | ..... | ..... | 0 | 1 |
| Embalming ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 | 0 | ..... | 2 | 0 |
| Total | 109 | 39 | 199 | 70 | 225 | 72 | 178 | 78 | ..... | 1 | 10 | 1 | 0 | 1 | 2 | 0 | ..... | ..... | 723 | 262 |

* As of May 17, 1938.

do not stand in the upper half of their classes scholastically, and because the number of applications exceeds the quota to be filled, there is highly favorable selection even within this upper 50 per cent. Studies by J. B. Johnston, dean emeritus of the College of Science, Literature, and the Arts showed that, for a period studied by him, the federal aid students as a group had the highest standing (See J. B. Johnston, *Scholarship and Democracy*, New York: D. Appleton-Century Co., 1937, p. 64 ff.).

The number of applications for the aid has declined year by year, although it still exceeds the number of appointments to be made. The decline represents a better state-wide understanding of the basis of selection, and less indiscriminate application. The principles of selection described in the report for 1934-36 are still in force.

In selecting students at the beginning of the academic year, care is exercised to maintain a balance between students already in residence at the University, and transfer students and high school graduates of the preceding June. Table III gives the class distribution of the NYA students for 1937-38 as of May 17, 1938, and also their sex and the college in which they were enrolled.

Residence of students.—NYA assistance is given primarily to Minnesota residents, but discretion is used in making assignments to students from adjacent states,

TABLE IV. DISTRIBUTION OF NONRESIDENT FEDERAL STUDENTS BY STATES, 1937-38*

| STATE | MALE | FEMALE | TOTAL |
|---------------------|------|--------|-------|
| California | 1 | 0 | 1 |
| Georgia | 1 | 0 | 1 |
| Idaho | 1 | 0 | 1 |
| Illinois | 5 | 0 | 5 |
| Indiana | 2 | 0 | 2 |
| Iowa | 4 | 0 | 4 |
| Kansas | 1 | 0 | 1 |
| Massachusetts | 1 | 0 | 1 |
| Michigan | 1 | 0 | 1 |
| Missouri | 1 | 0 | 1 |
| Montana | 2 | 1 | 3 |
| New Jersey | 1 | 0 | 1 |
| North Dakota | 8 | 7 | 15 |
| Pennsylvania | 1 | 0 | 1 |
| South Dakota | 4 | 4 | 8 |
| Texas | 1 | 0 | 1 |
| Tennessee | 1 | 0 | 1 |
| Wisconsin | 15 | 3 | 18 |
| Total | 51 | 15 | 66 |

* As of May 17, 1938.

TABLE V. GEOGRAPHICAL DISTRIBUTION OF FEDERAL STUDENTS, 1937-38*

| | MEN | WOMEN | TOTAL |
|-----------------------------|-----|-------|-------|
| Minnesota residents | | | |
| Non-Twin City | 365 | 102 | 467 |
| Twin City | 307 | 145 | 452 |
| Out of state students | 51 | 15 | 66 |
| Total | 723 | 262 | 985 |

* As of May 17, 1938.

especially if they are registered in courses of study not available elsewhere in this region (Table IV). Table V shows the geographical distribution of the collegiate students as of May 17, 1938. The number of nonresident NYA students has steadily declined since 1936-37, when the number enrolled was 106. Within Minnesota, nearly every county is represented on the NYA list. In 1937-38, the only exceptions were Chisago and Sibley counties.

Student work assignments.—NYA earnings are for work done by the students on projects assigned by the University, with payment according to the prevailing university scale. The work of the students is supplementary to the university budget, and care is exercised to insure that there is no displacement of regular employees. The students are distributed throughout the departments, and in so far as possible, effort is made to match each job assignment to the student's interest. Table VI gives the distribution of the students according to work assignments.

TABLE VI. DISTRIBUTION OF NYA STUDENTS BY DEPARTMENT OF WORK ASSIGNMENTS, 1937-38

| DEPARTMENT | FE- | | | DEPARTMENT | FE- | | |
|---|------|------|--------|-------------------------------------|------|------|--------|
| | MALE | MALE | TOTALS | | MALE | MALE | TOTALS |
| Administration | | | | School of Dentistry | 7 | 2 | 9 |
| President's office | 1 | 0 | 1 | College of Pharmacy | 6 | 0 | 6 |
| Comptroller's office | 8 | 3 | 11 | School of Business | | | |
| Student Affairs office | 6 | 0 | 6 | Administration | 19 | 4 | 23 |
| Purchasing department | 0 | 1 | 1 | University College | 0 | 1 | 1 |
| Registrar's office | 11 | 10 | 21 | General Extension | | | |
| College of Science, Literature, and the Arts | | | | Division | 2 | 2 | 4 |
| Anthropology | 3 | 1 | 4 | General University | | | |
| Astronomy | 5 | 0 | 5 | Alumni office | 1 | 2 | 3 |
| Botany | 10 | 5 | 15 | General and Chemical | | | |
| English | 2 | 10 | 12 | Storehouse | 11 | 1 | 12 |
| Geology | 5 | 0 | 5 | Employment Bureau | 1 | 0 | 1 |
| German | 1 | 2 | 3 | Inventory and service | 7 | 2 | 9 |
| Journalism | 7 | 6 | 13 | Library | 42 | 30 | 72 |
| Mathematics | 2 | 1 | 3 | Art Gallery | 12 | 6 | 18 |
| Music | 11 | 7 | 18 | Institute of Technology | | | |
| Physics | 6 | 0 | 6 | Administration | 1 | 0 | 1 |
| Political Science | 23 | 1 | 24 | Aeronautical | | | |
| Psychology | 5 | 7 | 12 | Engineering | 10 | 0 | 10 |
| Romance Languages | 3 | 3 | 6 | Architecture | 2 | 2 | 4 |
| Scandinavian | 0 | 1 | 1 | Civil Engineering | 9 | 0 | 9 |
| Sociology | 3 | 10 | 13 | Drawing and Descriptive Geometry | 5 | 0 | 5 |
| Speech | 9 | 2 | 11 | Electrical Engineering | 13 | 0 | 13 |
| Zoology | 8 | 1 | 9 | Engineering Experiment Station | 7 | 0 | 7 |
| Medical School | | | | Mathematics and Mechanics | 2 | 0 | 2 |
| Administration | 0 | 0 | 0 | Mechanical Engineer- ing | 26 | 0 | 26 |
| Anatomy | 10 | 2 | 12 | Chemistry | 32 | 2 | 34 |
| Bacteriology | 12 | 3 | 15 | Mines and Metallurgy | 7 | 0 | 7 |
| Medicine | 7 | 5 | 12 | Mines Experiment Station | 3 | 0 | 3 |
| Pathology | 3 | 1 | 4 | Department of Agriculture | | | |
| Pediatrics | 4 | 1 | 5 | Administration | 4 | 0 | 4 |
| Pharmacology | 6 | 1 | 7 | Cashier | 2 | 0 | 2 |
| Physiology | 10 | 2 | 12 | Library | 4 | 2 | 6 |
| Surgery | 5 | 0 | 5 | Agricultural Economics | 11 | 0 | 11 |
| Physiological Chemistry | 8 | 0 | 8 | | | | |
| University Hospitals | 18 | 20 | 38 | | | | |
| Nursing | 0 | 2 | 2 | | | | |
| Nurses Hall | 0 | 1 | 1 | | | | |

TABLE VI.—Continued

| DEPARTMENT | FE. | | | DEPARTMENT | FE. | | |
|--|------|------|--------|--|------|------|--------|
| | MALE | MALE | TOTALS | | MALE | MALE | TOTALS |
| Department of Agriculture—Continued | | | | YMCA | 1 | 0 | 1 |
| Agricultural | | | | YMCA (Univ. Farm) | 2 | 0 | 2 |
| Engineering | 7 | 0 | 7 | College of Education | | | |
| Agricultural | | | | Agricultural Education | 13 | 0 | 13 |
| Extension | 1 | 2 | 3 | Art Education | 1 | 7 | 8 |
| Agronomy | 14 | 0 | 14 | General Education | 10 | 19 | 29 |
| Animal Husbandry | 5 | 0 | 5 | Educational Administration | 3 | 0 | 3 |
| Biochemistry | 5 | 0 | 5 | Home Economics Education | 0 | 1 | 1 |
| Dairy Husbandry | 9 | 0 | 9 | Music Education | 1 | 0 | 1 |
| Entomology | 12 | 1 | 13 | Committee on Educational Research | 5 | 8 | 13 |
| Forestry | 15 | 0 | 15 | University High School | 5 | 4 | 9 |
| Home Economics | 1 | 22 | 23 | Physical Education and Athletics | 30 | 2 | 32 |
| Horticulture | 14 | 0 | 14 | Physical Education (University Farm) | 4 | 0 | 4 |
| Plant Pathology | 15 | 0 | 15 | Dormitories and Dining Halls | | | |
| Poultry Husbandry | 2 | 0 | 2 | Sanford Hall | 1 | 1 | 2 |
| Soils | 7 | 0 | 7 | Pioneer Hall | 6 | 0 | 6 |
| Veterinary Medicine | 2 | 0 | 2 | Minnesota Union | | | |
| Law School | 1 | 0 | 1 | Cafeteria | 10 | 3 | 13 |
| Library | 15 | 0 | 15 | Agriculture Cafeteria | 0 | 2 | 2 |
| Graduate School | 1 | 0 | 1 | General Service Enterprises | | | |
| General College | 4 | 13 | 17 | Creamery | 2 | 0 | 2 |
| Center for Continuation Study | 2 | 0 | 2 | Cold storage | 3 | 0 | 3 |
| Department of Military Science and Tactics | 4 | 0 | 4 | Photographic laboratory | 2 | 0 | 2 |
| Institute of Child Welfare | 1 | 4 | 5 | University Press | 3 | 0 | 3 |
| Student Service Enterprises | | | | Mimeograph and bulletins | 3 | 0 | 3 |
| Agriculture Bookstore | 3 | 0 | 3 | Publications (University Farm) | 1 | 0 | 1 |
| Students' Health Service | 2 | 1 | 3 | Visual Education | 5 | 2 | 7 |
| University Theatre | 3 | 4 | 7 | | | | |
| Buildings and Grounds | 9 | 1 | 10 | | | | |

The rating of student work.—Each spring, supervisors of the NYA students are asked to rate the work performed by the students, using the simple scale: A, superior; B, above average; C, average; D, inferior; F, so poor that the student might better have been dropped at the outset. The standard employed is the performance that would have been expected had the supervisor himself employed the student on his own funds. Table VII indicates the superior quality of the work performed. Over 80 per cent of the group were rated as above average or superior workers; only slightly over 2 per cent showed less than average work ability. Only three students were work failures. It is in terms of accomplishment that the NYA program must be evaluated, and it is the testimony of the departments that these students are performing useful functions, and performing them with high efficiency. The corresponding data for 1936-37 tell an identical story.

Study of supplementary earnings.—It is evident that with maximum earnings of \$20 a month from federal funds, even if supplemented by \$5 from state funds, a student cannot maintain himself fully at the University on the NYA project. NYA is clearly supplementary to some resources the student already has, or to other work which he does in addition to the NYA assignment. In 1936-37 data were collected to ascertain the extent to which NYA students do find it necessary

TABLE VII. WORK RATINGS FOR FEDERAL AID STUDENTS, 1937-38*

| RATING | MEN | | WOMEN | | TOTAL | |
|-------------|-----|----------|-------|----------|-------|----------|
| | No. | Per Cent | No. | Per Cent | No. | Per Cent |
| A | 328 | 45.4 | 130 | 49.6 | 458 | 46.5 |
| B | 262 | 36.2 | 88 | 33.6 | 350 | 35.6 |
| C | 116 | 16.0 | 39 | 14.9 | 155 | 15.7 |
| D | 15 | 2.1 | 4 | 1.5 | 19 | 1.9 |
| F | 2 | .3 | 1 | .4 | 3 | .3 |
| Total | 723 | 100.0 | 262 | 100.0 | 985 | 100.0 |

* Includes all students who had been employed at least for a full quarter.

to supplement their NYA earnings through extra work or borrowing. The sample contained 842 students. Certain facts may be stated in summary:¹

NUMBERS WORKING

1. In 1936-37, 41.3 per cent of the students had employment in addition to that required of them under the NYA assignment.

2. No significant variations in the tendency to seek supplementary employment are found when the working NYA students are compared by residence, except that there appears to be a tendency for the out-of-state students to work in slightly larger proportions.

3. The men NYA students tend to carry supplementary work in addition to the NYA assignment in larger proportions than the women.

4. The data seem to indicate—although the conclusion is tentative—that students in the professional schools have taken supplementary employment in relatively smaller numbers.

5. Although the differences are slight, it appears that freshman NYA students are found in supplementary employment in smaller proportions than their strength in the total group, whereas the senior NYA students are found in additional employment in slightly larger proportion than their strength in the total group.

6. When the percentage of working students in each NYA earnings category is compared with the distribution of all NYA students, the differences are so small that no hard and fast conclusion can be drawn. There is no pronounced difference in the relative number of working students as one moves from the lowest to the highest NYA earnings categories.

SUPPLEMENTARY WORK CARRIED

7. Nearly 75 per cent of the NYA students with supplementary work devote 10 or less hours a week to it. Yet there were 46 students (13.2 per cent of the working group) whose supplementary schedules call for more than 15 hours of work a week, and 21 of these worked in excess of 20 hours a week.

8. The amount of supplementary work tends to vary according to residence: Twin City students are found relatively most frequently in the category that includes students who work least; the Minnesota students (excluding the Twin City residents) predominate in the middle categories; the out-of-state students are represented relatively most heavily in the larger "hours of work" categories.

9. In general, the women NYA students carry lighter loads of supplementary work.

10. When students in the professional schools engage in supplementary employment, they tend to carry heavier work loads.

11. While there is some indication that freshmen and sophomores are found relatively more frequently in the smallest hours-categories of supplementary work, the differences in the proportions of students carrying specified hours of supplementary work is slight. The concentration in all college classes is in the one- to five-hour category.

12. There is a tendency for the proportions of students working beyond 10 hours a week on supplementary employment to increase with the size of the NYA appointment.

13. Although the differences are not pronounced there is some evidence that NYA students without supplementary employment have a slight advantage over the students with supplementary employment when compared on the basis of ratings given by supervisors of the NYA work. The work of the NYA group as a whole was, however, so generally satisfactory that the differences are probably without significance.

¹ Full copies of this study are available upon request.

AMOUNT OF EARNINGS THROUGH SUPPLEMENTARY WORK

14. Nearly three fifths (59.8 per cent) of the NYA students with supplementary work earned less than \$50 during the academic year in supplementary employment; slightly over one quarter of them (26.2 per cent) earned between \$50 and \$100; only 14.0 per cent earned in excess of \$100. The proportions of out-of-state students in the higher earnings brackets are larger than might be assumed on the basis of their proportionate representation in the total group.

15. In addition to jobs paying wages, 19.0 per cent of the total group of NYA students living outside of the Twin Cities obtained "board and room" jobs which gave them board, a room, or both, in return for specified services, such as waiting on table. Almost two thirds of the non-Twin City NYA students sent their laundry home regularly; 14 per cent of the NYA students were in some measure dependent on food sent to them from home.

NUMBER OF NYA STUDENTS BORROWING FUNDS

16. Approximately 39 per cent of the NYA students borrowed funds with which to supplement their NYA earnings.

17. Some differences with respect to the numbers borrowing are revealed when the borrowers are grouped by residence: Twin City students are borrowers relatively less frequently than students from outside of the Twin Cities or the state.

18. Men NYA students borrow in heavier proportions than the women.

19. The pressure to borrow tends to be greatest in the professional schools.

20. Upper classmen tend to borrow in larger proportions than lower classmen.

21. The students with the largest monthly earnings under the NYA are the students who tend to borrow in relatively greatest numbers.

AMOUNT OF MONEY BORROWED

22. The proportion of NYA students borrowing given amounts increases directly with the size of the "amount borrowed" categories. The largest group borrowed in excess of \$100; the smallest group borrowed less than \$25.

STUDENT ATTITUDES TOWARD NYA WORK

23. NYA students—at least in a depression period—prefer NYA work to other employment because of the security, the convenience, and the training values that are involved.

General observations concerning the NYA program.—From the study just summarized and from experience in administering the program over a period of years, certain general observations emerge which may be stated without any attempt to elaborate them fully:

1. At least for an institution of the character of the University of Minnesota, the NYA program is definitely one of supplementary aid, and its effective operation assumes that the students who are given NYA assignments have some resources with which to supplement their NYA earnings. These resources may be savings, the ability to borrow, income through supplementary work, parental assistance, or residence at home. The NYA program does not meet the needs of the students who are totally without resources of one type or another.

2. The important question is raised of how to provide for those students whose resources do not permit them to enjoy the obvious advantages that come from appointment as NYA students. There are potentially able students for whom the NYA is not completely an answer to their desire for continued education.

3. For the great majority of the NYA students, the NYA earnings plus a reasonable amount of work or borrowing, have made it possible to continue in the University without overwork or undue hardship; but the supplementary nature of the program has been clearly demonstrated by shifting attention to the fortunately small number of students carrying what appear to be excessive additional work loads. Their presence suggests that even greater care must be made in selecting NYA students to the end that only those are appointed whose supplementary resources are sufficient to permit them to carry the NYA assignment without an undue strain, physical or psychological.

4. It may be well to consider some combination of the existing NYA work program with a program of state or federal scholarships, the latter to take care of the differential needs of students with the most limited of resources. A more fundamental modification of the aid program is needed if it is to meet fully the needs of youth of college age.

5. Adaptation of the NYA program to meet student needs more fully will require a clearer decision as to whether the federal program is to be regarded as a relief program or as a scholarship program. The two conceptions have been somewhat confused to date. There is need for separation. If the NYA project is to be considered a temporary relief project, thinking in connection with it develops along one line; if it is to emerge as a federal scholarship project (however the form may differ from the present NYA project) thinking will develop along quite different lines. Even as a relief program the NYA project has met the needs (at least in Minnesota) only of the students who were able from other resources to supplement their federal earnings. A tendency on the part of students and public to think of the NYA in scholarship terms accordingly develops. One may predict that pressures for its continuation on some scholarship basis are likely to result.

6. No student should attempt to enter the University or continue in residence unless he has from one source or another resources equivalent to between \$400 and \$450 a year—and this is a minimum figure. The most that can be earned under NYA at a Minnesota institution is \$25 a month for nine months—including the state supplement of \$5 a month. The maximum NYA earnings are thus \$225. A student before entering the University, even with a top NYA assignment, must see his way clear to obtain an additional \$200 or thereabouts, in cash or its equivalent. The earnings figures show that most NYA students earned less than \$100—only 14.0 per cent exceeded this figure. About two thirds of the NYA students earned less than \$50 in the academic year. There are likewise limits on borrowing. These are the facts that students should bear in mind in making application for NYA appointments, and that we of the administration must also contemplate in making appointments and assignments.

7. Those students, whose needs it meets, like their NYA work, and during a depression period, at least, prefer it to other work. The results in academic accomplishment, and in work accomplishment, fully justify the NYA expenditures. They have made it possible for large numbers of students to continue an education, and to acquire good work habits while doing it. And equally important, the NYA program has served in some measure to counteract the development of impersonality in staff-student relationships in large colleges and universities. This was not foreseen when the work program was contemplated, but it is a result of the work program that is of considerable importance.

WORKS PROGRESS ADMINISTRATION PROGRAM

With funds from the Works Progress Administration the University has operated during the biennium a number of projects, staffed by nonstudents, and designed to provide research assistance or special types of service to staff members and the departments. Workers on these projects are assigned from relief rolls, and in general are of the "white collar" category. All work done under the WPA is supplementary to the university budget, and not a replacement.

The nature of the projects.—The bulk of the WPA work has been in the form of research assistance on two large projects, one on the Main campus, the other on the Farm campus. These are set up as blanket projects under which subprojects have been planned, each subproject employing from one to thirty workers; most of them employ five or less. The purpose of the subprojects is to provide clerical and technical assistants to staff members as a means of facilitating their research projects. The workers are thus integrated with the existing research programs in operation at the University. The purpose of the service projects is to provide additional departmental service thereby extending normal functions of the University. Table VIII gives in summary form data relevant to the WPA program, showing the projects in operation, the subprojects in force, the numbers of workers on the separate projects, and the minimum-maximum monthly payrolls.

Accomplishments.—The results of the work on the research projects usually become available to the public through scholarly publications, as books or articles in scientific and professional journals. Already an impressive bibliography of titles resulting from WPA assistance is on file. On the service projects, the supplementary assistance tends to result in better service to students, faculty members,

THE PRESIDENT'S REPORT

TABLE VIII. UNIVERSITY WPA WHITE COLLAR PROJECTS, 1936-38
(As of June 30, 1936)

| <i>Main Campus</i> | |
|--------------------|--|
| Project No. | |
| 1389 | Nursing care for indigent patients, University of Minnesota Hospitals |
| 5209 | Research studies at the University of Minnesota |
| 2518 | Survey of local government of 70 cities and towns—Municipal Reference Bureau |

| <i>Farm Campus</i> | |
|--------------------|--|
| 1985 | Assist in work in progress, collecting, classifying data for the Department of Agriculture |

PROJECTS ADDED BETWEEN JUNE 30, 1936 AND JUNE 30, 1938

| | |
|------|---|
| 5783 | Preparation of museum exhibits—University Art Gallery |
| 5829 | Transcribing clerical records—University of Minnesota Hospitals |
| 5769 | To extend the facilities of the University Library |

NUMBER OF SUBPROJECTS OPERATING UNDER MAIN AND FARM CAMPUS
PROJECTS (AS OF JUNE 30, OF EACH YEAR)

| | 1936 | 1937 | 1938 |
|--------------------------|------|------|------|
| 5209 Main research | 31 | 58 | 91 |
| 4881 Farm research | 18 | 18 | 18 |
| Total | 49 | 76 | 109 |

NUMBER OF WORKERS EMPLOYED ON UNIVERSITY PROJECTS
(AS OF JUNE 30, OF EACH YEAR)

| <i>Main Campus</i> | | 1936 | 1937 | 1938 |
|---|--|------|------|------|
| 5209 Main research | | 140 | 215 | 328 |
| 5783 University Art Gallery | | | | 20 |
| 1389 University of Minnesota Hospitals | | 70 | 72 | 71 |
| 2518 Municipal Reference Bureau | | 42 | | |
| 5829 University of Minnesota Hospitals—clerical | | | | 23 |
| 5769 University Library | | | | 80 |
| Total | | 252 | 287 | 522 |
| <i>Farm Campus</i> | | | | |
| 4881 Farm research | | 86 | 107 | 120 |

HIGH AND LOW MONTHLY PAYROLLS FOR MAIN AND FARM CAMPUS PROJECTS

| | 1936-37 | | 1937-38 | |
|--|-------------|-------------|-------------|-------------|
| | High | Low | High | Low |
| 5209 Main | \$17,002.55 | \$12,014.74 | \$28,663.51 | \$19,588.93 |
| 1389 University of Minnesota Hospitals | 1,570.05 | 1,428.99 | 2,329.65 | 2,292.39 |
| 2518 Municipal Reference Bureau | 4,033.12 | 184.00 | | |
| 5829 University of Minnesota Hospitals—clerical | | | 1,750.59 | 1,680.49 |
| 5769 Library | | | 5,928.06 | 5,798.00 |
| 5783 University Art Gallery | | | 1,646.76 | 763.44 |
| 1985 Farm—research | 8,984.33 | 6,815.27 | 10,285.79 | 9,370.25 |

or citizens who have contacts with the University. Thus hospital service has been augmented, hospital records have been classified and made more useful, library services have been improved, and the operation of the University Art Gallery has been made possible.

The co-operation with the Works Progress Administration has been excellent, and the operation of the projects, while conforming to WPA regulations, has been in full conformity with university policies and under the joint administrative supervision of university officials. Even disregarding the question of relative efficiency of WPA workers, there is no doubt that university programs have been definitely furthered through the WPA aid.

Respectfully submitted,

MALCOLM M. WILLEY, *University Dean and
Assistant to the President*

INTERNATIONAL RELATIONS BUREAU

To the President of the University:

SIR: I submit a report of the activities of the International Relations Bureau for the biennium 1936-38.

During 1936-37 Mr. John Bridges was assistant in international relations in charge of the bureau; during 1937-38 Mr. Norman Hanwell held the position. In the former year the room used by the bureau, in Northrop Memorial Auditorium, was made attractive by the expenditure of a small sum for a rug and furniture. The library of the International Relations Club is housed at the bureau and books may be read there or borrowed by any student. A few newspapers and periodicals also are available. A clipping and filing service covering significant documents and items of international news or comment in the *New York Times*, *Christian Science Monitor*, and *Manchester Guardian*, was inaugurated in 1937-38.

The functions of the bureau may be grouped under four heads: (a) assistance to foreign students, (b) co-operation with student organizations, (c) assistance to teaching and research, and (d) assistance to off-campus individuals and organizations. Under the first head two important developments of the past year are to be mentioned. The Cosmopolitan Club was invited to use the bureau as its office and accepted the invitation. This arrangement enables the oldest and most active foreign-American student organization on the campus to have a pleasant center for office work and committee meetings. The second development was the appointment of Mr. A. N. Christensen, instructor in political science, as adviser for foreign students, with an office in the bureau.

In this connection note may be taken of the preparation and publication of a new pictorial brochure illustrating the various units of the University and the opportunities it affords to foreign students. This was planned by the bureau in 1936-37 and 500 copies of an edition of 1,500 were distributed to foreign institutions in 1937-38. Still another undertaking, not yet completed, is an analysis of foreign student registration and accomplishment at the University over the five-year period 1931-36.

Foreign students, particularly those from China and India, have made considerable use of the facilities of the bureau. An example of such use was a meeting between some forty Chinese students and the distinguished Chinese philosopher, Dr. Hu Shih, on the occasion of the latter's visit early in 1938. Mr. Christensen has interested himself in an inquiry into the financial difficulties of Chinese students caused by the hostilities in the Far East.

Co-operation with student organizations is indicated in the provision of reading materials and a center for committee meetings of such organizations as the International Relations Club, the Indo-American Club, the Forum, and the Cosmopolitan Club. The bureau assistant has been ready to advise these organizations on programs and speakers. The assistant has aided appreciably the committees which organized and conducted the peace conferences in 1937 and 1938.

Assistance to teaching is provided through consultation of the assistant with individual students concerning their studies in the field of international relations and the use by students of the aids provided by the bureau.

Assistance to off-campus organizations is afforded through talks by the assistant on subjects within his field of knowledge, suggestions as to available student

speakers, correspondence on methods of promoting study groups, use of the printed materials at the bureau, and in other ways.

The following recommendations are offered:

1. That the functions of the bureau be divided, those of assistance to teaching and research to be carried on in a seminar room in the University Library; the assistant in international relations may well be employed as a library aide in such a room. In explanation it may be said that advanced work in international relations cannot be carried on at the present bureau, because such work requires the resources of the library and a seminar room in which such materials as the League of Nations publications, treaty series, sets of Far Eastern newspapers, and court reports, may be placed. There is no available space in the seminar rooms now occupied by political science, economics, and history for such materials.

2. That the adviser for foreign students be permitted to carry on his functions in his office in Burton Hall. The amount of advisory work that he is called upon to do hardly requires his presence in a separate office.

3. That a joint committee of interested student organizations, American and foreign, be placed in charge of the functions of the bureau related to the activities of such organizations. Experience has shown that students prefer to manage such affairs themselves. It would facilitate their activities if a room could be found in the Minnesota Union where students naturally congregate and where food may be served. It is believed that the interest of the University in foreign students justifies the setting apart of a room in the Minnesota Union which might symbolize that interest.

4. These recommendations provide for all the present functions of the bureau except those related to off-campus organizations. It is suggested that these latter functions be entrusted to the Extension Division and that an instructor be appointed to give part time to instruction in international relations in one of the departments of the College of Science, Literature, and the Arts and part time to extension work. It would appear to be desirable that the University offer through the Extension Division such services as have been contemplated but hitherto only slightly performed by the bureau. With the enlarged radio program the scope of such services will increase.

Respectfully submitted,

HAROLD S. QUIGLEY, *Chairman,*

Committee on International Relations

SPECIAL UNITS IN BEHALF OF STUDENTS

STUDENTS' HEALTH SERVICE

To the President of the University:

SIR: I have the honor to present herewith a report of the activities of the Students' Health Service during the academic years 1936-37 and 1937-38.

Health status of student body.—During the past two years the health status of the student body has been unusually good; there have been no major epidemics in this period. During the winter quarter of 1936-37 there was a light influenza epidemic among students on the Main campus but none on the Farm campus. In the winter of 1937-38 there was a short epidemic of influenza on the Farm campus but none among the students on the Main campus.

Types of service.—The types of service which the Health Service provides for students of the University include:

1. A complete medical examination of every student at the time of entering the University.
2. A personal health conference with a physician for the purpose of interpreting to the student the results of the entrance examination and following up any abnormalities which were found at that time.
3. Complete health examinations available to all students at any time during the year and required annually of students in certain professional schools.
4. Special medical examination for certification of students for participation in intercollegiate athletics.
5. Recommendations to the Department of Physical Education and to scholastic counselors regarding the physical fitness of the student to enable him to arrange a program within his physical capacities.
6. Medical service in the Health Service dispensary at any hour of the day or night.
7. Hospitalization for students needing bed care.
8. Consultation with medical specialists and a psychiatrist.
9. Supervision of the sanitation of the campus through the annual examination of all food handlers in the university cafeterias, periodic bacteriological examination of the water of the swimming pools, and general supervision of the dining halls and kitchens in university buildings.

In 1936-37 consultants in proctology and urology were added to the consulting staff of the Health Service, now making available to students consultation service in all of the medical specialities. A new audiometer for testing the hearing of students also has been installed. This makes it possible to detect more accurately hearing defects which may be present, and to assist the student in planning more intelligently for scholastic work on the basis of such defects.

Special diet table.—In January of 1938 a diet table for students with diabetes, gastric ulcer, nephritis, etc. was arranged. Further details concerning this will be found on page 96 of this report.

During the six months that this diet table has been in operation, 21 students with the following medical conditions have been served: diabetes, 7; gastric ulcer, 11; nephritis, 2; and colitis, 1.

Examinations of applicants for nonacademic positions.—In the spring of 1938 a ruling was made by the Board of Regents that all new nonacademic employees in the University should be required to have a physical examination before such employment. The Health Service has conducted these examinations as described on page 50 of this report.

Periodic health examinations.—The complete physical examinations given to university students is one of the important activities of the Health Service. From

the standpoint of individual physical efficiency it is obviously desirable that the body be kept in the best possible physical condition to function properly. It is essential, therefore, that any physical impairment be discovered early in order that it may be corrected. The periodic health examination serves, therefore, to discover physical handicaps and incipient diseases which might affect the efficiency of the student, and also serves as a basis for health education, enabling the physician to give advice to the student about his physical and academic programs.

The complete physical examinations are required upon matriculation of all graduate and undergraduate students. Follow-up health conferences are given each student, at which time the physician advises the student about the results of the examination and any necessary follow-up work indicated. At this conference the physician also has an opportunity to advise the student about his program if his physical condition is such that certain limitations in his regime are indicated. Complete periodic health examinations are offered annually to each student in the University. Students in the College of Education, the School of Dentistry, the Medical School, and the School of Nursing are required to have an annual physical examination. In addition, annual examinations are required of such students as those participating in intramural or intercollegiate athletics, in the Women's Athletic Association programs, in Home Economics training courses, and in mine rescue work. In 1936-37, 8,750, and in 1937-38, 7,890 students of collegiate grade received complete physical examinations. This represents about two thirds of the entire student body (Table I).

TABLE I. NUMBER OF COMPLETE PHYSICAL EXAMINATIONS GIVEN AT STUDENTS' HEALTH SERVICE

| YEAR | ENTRANCE | PERIODIC | TOTAL |
|--------------|----------|----------|-------|
| 1934-35..... | 4,475 | 2,484 | 6,959 |
| 1935-36..... | 5,378 | 2,737 | 8,115 |
| 1936-37..... | 5,408 | 3,342 | 8,750 |
| 1937-38..... | 5,036 | 2,854 | 7,890 |

Medical service to students.—Medical care for students is provided in the Out-Patient Department of the Students' Health Service and in the Students' Hospital. Physicians in general medicine and in the various medical specialties are available. The services of a physician are available at any hour of the day or night. Physicians of the Health Service staff will make calls upon students at their rooms, although repeated calls upon the same individual for the same illness are not made. Students needing prolonged bed care must enter the Health Service Hospital. For major surgery or prolonged medical attention students are encouraged to obtain the service of private practitioners, although the Health Service will provide for students whatever medical or surgical services are essential for their welfare.

In the biennium just ended more than 100,000 visits were made to the Health Service Out-Patient Department for medical care (Table II).

Students are encouraged to report to the Health Service Out-Patient Department on the first appearance of symptoms of illness. In this way the possibilities of preventing the development of serious illnesses, as well as the restriction of the spread of communicable diseases, are greatly increased. The visit of the student to the Out-Patient Department for medical care gives the physician a unique opportunity for informal health education. Every effort is made by the physicians of the Health Service staff to utilize these opportunities when students report for treatment.

TABLE II. VISITS TO THE HEALTH SERVICE (MAIN CAMPUS)
FOR MEDICAL ATTENTION*

| YEAR | NUMBER OF VISITS† | AVERAGE VISITS PER STUDENT OF COLLEGIATE UNIVERSITY GRADE |
|---------------|-------------------|---|
| 1934-35 | 54,794 | 4.41 |
| 1935-36 | 57,400 | 4.25 |
| 1936-37 | 54,956 | 3.91 |
| 1937-38 | 55,969 | 4.06 |

* In this tabulation the calls made by students at the health services at the agricultural substations have not been included because in certain years the attendance at these health services is greatly affected by epidemics of contagious disease upon those campuses. The Summer Session figures also have been omitted.

† These totals do not include visits for physical examinations, dentistry, hospitalization, excuses for illness, contagious inspections, eye refractions, vaccinations, immunity tests, physiotherapy, laboratory, or X-ray services.

Hospital care of students.—In 1936-37, 1,246 students and in 1937-38, 1,046 students were hospitalized in the Students' Hospital for an average length of stay of five days (Table III).

TABLE III. STUDENT HOSPITAL CARE (MAIN CAMPUS)

| YEAR | NO. OF PATIENTS | RATE PER 1,000 STUDENTS REGISTERED | NO. OF HOSPITAL DAYS | AV. LENGTH OF HOSPITAL STAY PER PATIENT IN DAYS | COMMENTS |
|---------------|-----------------|------------------------------------|----------------------|---|-------------------------------------|
| 1932-33 | 1,239 | 111.8 | 5,837 | 4.7 | Moderate epidemic of mild influenza |
| 1933-34 | 982 | 91.2 | 4,416 | 4.5 | No epidemic |
| 1934-35 | 1,676 | 135.0 | 7,620 | 4.5 | German measles |
| 1935-36 | 1,214 | 89.7 | 6,464 | 4.5 | No epidemic |
| 1936-37 | 1,246 | 88.6 | 5,983 | 4.8 | Mild influenza |
| 1937-38 | 1,046 | 75.8 | 5,560 | 5.3 | No epidemic |

Students who are living away from home and who are sufficiently ill to be in bed are advised to enter the Students' Hospital. It is impossible for them to obtain adequate nursing care in rooming houses, dormitories, or fraternity houses.

The early hospitalization of students who are ill is important because it not only reduces the danger of the spread of communicable disease throughout the University but in many cases decreases the probability of serious complications from some relatively minor illness.

Immunizations.—Immunizations against communicable diseases are not required for entrance to the University but are offered to students desiring them. This year large numbers of students availed themselves of the opportunity for protection against diphtheria and smallpox. Immunization against scarlet fever and typhoid fever is also available to students.

Mental hygiene.—During the period of this report 419 new students have been seen in the Mental Hygiene Department. This service is rendered by one full-time psychiatrist, one part-time psychiatrist, and a psychiatric social worker. Ninety-five old cases were carried over for continued treatment. Of the 419 new patients seen, 183 were referred by Health Service physicians, 162 came voluntarily, 28 were referred by the faculty, 3 by the Testing Bureau, 13 by the deans' offices, 12 by other students or friends, 4 by parents or relatives, 3 by social agencies, 4 by private physicians, and 7 by miscellaneous sources. Ten students were hospitalized

for short periods of time because of mild emotional disturbances. There has been little change in the type of problems encountered, the majority of the cases being mild emotional problems not serious enough to be classified as mental illness. During the year 1937-38 there was one case of suicide. This is the first suicide that has occurred since the establishment of the Mental Hygiene Department ten years ago.

Tuberculosis control.—Although tuberculosis still occupies first place as a cause of death in persons of college age, the number of university students found to have tuberculosis is very small. The tuberculosis control program begins at the time the student enters the University. In addition to the complete physical examination required of all students, a tuberculin test is performed, a fluoroscopic examination of the chest is made, and an X-ray film of the chest is taken for all students who react positively to tuberculin. By this complete case-finding program any student with tuberculosis is diagnosed soon after entering the University. During this two-year period, as a result of the routine examination, 51 cases of tuberculosis were discovered. In the majority of these the disease was in the incipient stage before the students had any symptoms. This early diagnosis not only saves the student from years of invalidism but also assures other students in the University that there is little possibility of tuberculous infection being transmitted from one student to another.

For the first time, students in the University High School, who are given an annual physical examination at the Health Service, were, in the fall of 1937, required to have a tuberculin test and a chest X-ray if the tuberculin reaction was positive. One student in the University High School was found to have far advanced tuberculosis with positive sputum. This one case is evidence of the value of requiring a tuberculosis case-finding program for the high school students as well as for university students.

Dental service.—The Dental Department of the Health Service continues to provide high class dental service to students on a cost basis. This service was established because it was found that many students, in spite of being advised about the care of their teeth, made no effort to have necessary dental work done. The convenience and accessibility of the Health Service Dental Department encourages students to arrange for the care of their teeth. The number of students served by the department has remained fairly constant during the past several years.

Allergy.—One of the full-time members of the Health Service staff has made the subject of allergy a field of special study. Hay fever and asthma, two manifestations of allergy, cause much disability among university students. Results obtained in the treatment of these diseases have been unusually favorable due to the excellent scientific work done by the physician devoting his time to this.

The common cold.—During the past two years studies on the *prevention* of colds by the use of certain vaccines and drugs have been made. An evaluation of these preventive measures has just been completed.

Treatment of dysmenorrhea.—Dysmenorrhea causes a greater loss of time from school and work for young women than any other condition. Little is known about its cause and therefore no reliable form of treatment is available. Studies on its cause and treatment have been carried on at the Health Service for several years and data are being accumulated. An evaluation of an endocrine preparation which has been widely advocated for the treatment of dysmenorrhea has been made during the past year and the results are to be published.

Diabetes prevention.—At the time of the routine physical examination given to university students a urinalysis is made. About one per cent of all students

examined show sugar in the urine, although only a small percentage of these have real diabetes. Every student whose urine shows even a trace of sugar is studied carefully as to the sugar tolerance. Many of the students with early diabetes can be prevented from developing a severe form of this disease by proper diet during the early stages. Such diet may now be obtained by students at the special diet table which was started at the Health Service this year.

Farm campus.—The Health Service on the Farm campus has been rendering a steadily increasing number of services to students on that campus (Tables IV and V). The Health Service building on the Farm campus serves students in the School of Agriculture and also other students in residence on that campus.

TABLE IV. UNIVERSITY FARM HEALTH SERVICE: OUT-PATIENT DEPARTMENT

| YEAR | MEDICAL ATTENTION | TOTAL IMMUNIZATIONS: | | TOTAL SERVICES RENDERED* |
|---------------|-------------------|--|--|--------------------------|
| | | (SMALLPOX VACCINATION, DIPHTHERIA, SCARLET FEVER IMMUNIZATIONS, ETC. | | |
| 1932-33 | 1,903 | 748 | | 2,651 |
| 1933-34 | 2,691 | 633 | | 3,324 |
| 1934-35 | 3,619 | 2,241 | | 5,860 |
| 1935-36 | 2,518 | 3,812 | | 6,330 |
| 1936-37 | 4,702 | 1,771 | | 6,473 |
| 1937-38 | 4,426 | 2,009 | | 6,435 |

* These totals do not include visits for physical examinations, contagious inspections, eye refractions, or excuses for illness.

TABLE V. STUDENT HOSPITAL CARE (FARM CAMPUS)

| YEAR | NO. OF PATIENTS | NO. OF HOSPITAL DAYS | AV. LENGTH OF | COMMENTS |
|---------------|-----------------|----------------------|-----------------------------------|-------------------------------|
| | | | HOSPITAL STAY PER PATIENT IN DAYS | |
| 1932-33 | 166 | 580 | 3.5 | |
| 1933-34 | 85 | 231 | 2.7 | No epidemic |
| 1934-35 | 490 | 2,397 | 4.9 | German measles; scarlet fever |
| 1935-36 | 305 | 1,920 | 6.3 | Mumps |
| 1936-37 | 272 | 1,108 | 4.1 | No epidemic |
| 1937-38 | 260 | 1,296 | 5.0 | Mild influenza |

Respectfully submitted,

RUTH E. BOYNTON, *Director*

DEAN OF STUDENT AFFAIRS

To the President of the University:

SIR: I herewith submit my report covering the activities of the office of dean of student affairs, together with a brief report on the activities of the student body, for the years 1936-37 and 1937-38.

Student morale.—The general improvement in morale of the student body mentioned in my report of two years ago has continued. Interest in the problems of today—political, social, and economic—has grown and each year the attention and thought of an increasing number of students are attracted. There have not been the sharp and sometimes bitter political differences that have appeared frequently during earlier years. The leadership of the student body has rested largely in the hands of sound, thoughtful students.

The University Student Council has shown, particularly in 1937-38, an earnest and sincere desire to arouse in the student body an interest in the problems of the University and has given co-operation in trying to solve them. Its most immediate move was the preparation of a new constitution which provides for more direct proportional representation. This constitution was submitted to the students for approval. It was approved and is now in effect.

Student publications.—The Student Board of Publications has completed another two years of successful and earnest work. The publications functioning under this board are: the *Minnesota Daily*, *Minnesota Literary Review*, *Gopher*, and *Ski-U-Mah*.

The *Minnesota Daily* has operated under a student leadership which has sincerely tried to serve the University and to represent all groups of the student body and the faculty. One constructive effort has been its attempt to place before its readers a picture of the different phases of the University, its administration, and its work. It also assisted the Student Council and the office of the dean of student affairs in carrying through a survey of student housing.

The *Literary Review* appears as a supplement of the *Daily*. Its staff is separate, though elected by the Board of Publications with advice from the English Department. The *Review* offers splendid laboratory experience to those students who are interested in the literary style of writing.

The *Gopher*, the college annual, was in 1937-38 prepared under the supervision and direction of a woman editor, the first in the history of the book. It was ably done.

The *Ski-U-Mah*, a monthly humor publication, in my judgment showed improvement over the past few years. Its greatest defects lie in the fact that the editors have not succeeded in arousing an interest sufficient to bring out student talent and have at times resorted to padding. For 1938-39 a woman student has been elected as editor—the first in the history of the magazine.

All of these publications have operated on a sound financial basis.

Social life.—There are 271 recognized student groups on the campus. I do not feel that the social life is excessive. It is true that a comparatively small group of men and women of considerable popularity attend probably all of the large social affairs and are given opportunity to attend a number of smaller restricted affairs. But taking into account the number of groups entitled to party privileges, the restricted appeal of many of the group affairs, and the restrictions as to time parties may be held, I feel that I am justified in my conclusion that for most of the students the social side of the student life is not overdone.

Activities of the office.—For the past two years effort has been made to keep a record of all conferences with or pertaining to students. During 1936-37 there were 7,092 such conferences, during 1937-38, 9,373. Five members of my staff participate in these conferences. The subjects of them may roughly be classed under these heads: personal problems, group problems, loans, discipline, and miscellaneous.

I call especial attention to the discipline group. During 1937-38, for example, there were only a few serious cases—less than ten—only four calling for committee action; and a comparatively large number of minor cases (seventy-five), many calling for no action further than personal conferences resulting in an agreement or understanding. Under personal problems, parents and students brought in a broad list of difficulties, financial and deeply personal. The largest number called for co-operation with one or more of the many helpful agencies on the campus.

Loans.—Besides the official loan funds of the University, the office acts as agent for outside groups which have placed nearly \$15,000 at our disposal, with the understanding that loans are to be made under the same rules and procedures as are loans from our official funds. The amount loaned to students has fallen off during the period in which NYA aid has been extended to students. These NYA students were barred from the use of loan funds, except for medical and dental emergencies. The federal aid group represented a large number of the normal borrowing group. The past year this restriction on borrowing was removed and the group placed on the same borrowing basis as all other students.

The total loans may be summarized as follows:

| | | |
|---------------------------------|-------------|-----------------|
| 1936-37: from university funds, | \$21,153.25 | to 195 students |
| from special funds, | \$5,488.20 | to 125 students |
| 1937-38: from university funds, | \$26,922.58 | to 243 students |
| from special funds, | \$10,429.65 | to 233 students |

Financial advice and guidance.—This service was begun in a small way over fifteen years ago. Its steady growth and development have been the result of interest and co-operation on the part of the students. The work now falls into three distinct groups:

1. With on-campus organizations—involving publications, bookstores, dances, governmental organizations, social organizations and other nonhouse groups.
2. With off-campus organizations—including fraternities, sororities, and co-operative rooming house organizations.
3. With individual students seeking advice on how to budget, or seeking help to increase their income. Some parents have asked that the student be allowed to deposit funds with the office to be drawn against under supervision.

The present plan of a general student organizations fund, into which all incomes go and from which all disbursements are made, through separate book records for each group, has proved successful and efficient.

The following figures show the growth of the plan:

| | | | | | |
|--------------------------|--------------|--------------|--------------|--------------|--------------|
| | 1933-34 | 1934-35 | 1935-36 | 1936-37 | 1937-38 |
| Deposited receipts | \$116,260.97 | \$130,778.82 | \$136,854.22 | \$150,945.98 | \$159,180.86 |
| Disbursements | 111,276.74 | 127,978.94 | 130,970.95 | 149,457.44 | 158,261.16 |

The following figures show the accounts and activities handled in the respective years:

| Year | Accounts | Activities |
|---------------|----------|------------|
| 1933-34 | 61 | 136 |
| 1935-36 | 74 | 151 |
| 1937-38 | 93 | 176 |

At the time of preparation of this report, the books for 1937-38 had not been closed.

During 1937-38, fifteen fraternities and sororities had asked for financial service and were receiving it.

Hospital service.—The office began some years ago sending a member of the staff to the Students' Hospital to visit those students who were confined there. Our purpose has been that of service and friendship, notifying instructors, getting classroom assignments for the students, writing letters, and in fact, rendering any service possible. That this service is appreciated is shown by frequent letters of appreciation and also by words of commendation from the Health Service. We receive occasional requests to visit students in some other hospitals. In 1937-38 we made 123 trips to hospitals, 881 sick bed visits, and 304 individuals were seen.

Fraternities.—I am pleased with the growing feeling of responsibility shown by fraternities. They are recognizing more and more the value to them of sound scholastic standing and the fact that they must require a definite showing of ability to carry university work before they pledge a man.

Fraternity finances are steadily improving. Some fraternities have entirely cleared up obligations; some are making satisfactory progress towards a sound financial basis.

The Social Co-ordinating Committee.—This committee was organized two years ago for the purpose of bringing together representatives of groups interested in developing a broader social life for students. During the first year the chairmanship was held by a representative of this office. In 1937-38 the chairmanship was rotated, and the secretary was the only permanent officer. He was from this office. In 1937-38 twenty different groups were represented on the committee, and eighteen members from the staff. The offices of the dean of women and the dean of student affairs were both represented. Through the work of this committee, there have been greatly increased co-ordination and co-operation. The committee brought many valuable suggestions to the University Senate Committee on Student Affairs.

Leadership course.—This noncredit course originated and was developed under the auspices of the Co-ordinating Committee, first under the name, "Training of Social Leaders." Enrolment was restricted to twenty-five girls selected by the agencies carrying women's activities and twenty-five men selected by agencies carrying men's activities. The Co-ordinating Committee appointed a subcommittee of four staff members and two students to be known as the Curricular Committee.

The interest and attendance have been excellent, with four to eight meetings a quarter. A guest speaker introduces some pertinent problem and discussion follows. Typical discussion subjects include: The Organization of the University, Group Psychology, The Value of a University Education, Individual Differences, Effective Speaking and Personality Development, Leadership in Business, Leadership in Public Life. The value of this course lies in the preparation of men and women to be better leaders of their own college groups and in the communities in which they will live after graduation.

The etiquette course.—This is another noncredit course sponsored by the Co-ordinating Committee. It has been offered for two years. Its purpose is to enable students to make better adjustments in their social life. Many students have expressed the opinion that this course has filled an important place in their general educational program. Receptions, dances, teas, and dinners have served as laboratories for the application and illustration of informational matter presented in well-prepared talks covering personal appearance, social technique, etc.

The Lodgers' League.—In 1937-38 there were 287 rooming houses where three or more men students lived, and some 200 houses caring for one or two students, all scattered over a wide area. As a result, many students miss in some measure the values offered by participation in university community life.

In an effort to better this situation, the "Lodgers' League" was organized two years ago. The rooming area was divided into ten districts with leaders appointed for each district. There is a Lodgers' League Council corresponding to the Interfraternity Council. The objective of the council, co-operating with this office, has been to create for this rooming house group an adequate place in the general student life. Under able leadership, the league made excellent progress. Through the weekly publication, the *Lodger's Log*, an awareness has been created within the rooming group that its members can develop for themselves interests and activities such as the fraternities enjoy. The spirit developing between the lodgers and the fraternity groups is fine.

The housing problem.—This is one of the very important problems facing the University today. There are now more than five hundred houses furnishing rooms to our out-of-town students. The problems involved were studied in 1937-38 through a survey conducted by the All-University Council in co-operation with this office.

I feel justified in drawing with caution, two general conclusions:

1. For those students able and willing to pay, housing conditions are reasonably good.
2. For a larger group, the members of which must live with the greatest economy, the housing conditions are far from satisfactory, in fact, in some cases they are a menace to health and mental well-being.

The University maintains a housing bureau which tries to inspect all houses offering rooms to students. But one full-time worker with the aid of a half-time worker cannot make adequate official inspection of some 500 houses. There should be sufficient help provided to enable the bureau to make satisfactory inspections at irregular intervals.

I hope that the time may soon come when the University will find it possible to offer living opportunities which will protect the health, mental ease, and happiness of every student, even those who must exercise the greatest economy.

Respectfully submitted,

EDWARD E. NICHOLSON,
Dean of Student Affairs

INTERFRATERNITY COUNCIL

To the President of the University:

SIR: I submit my report as adviser to the Interfraternity Council for the two years 1936-37 and 1937-38.

The fundamental purpose of the council is to strengthen each social group in its relationship with the college, the fraternity system, and the individual members. The efforts of the council have been directed in four general lines: (1) to stimulate throughout its membership a maintenance of higher standards of scholarship and educational conduct; (2) to provide adequate opportunity for all members to perform service in their student community; (3) to encourage the fullest development of the individual through the leadership and opportunities offered by his social group; (4) to acquaint each fraternity with the elements essential for its own success as a social group. Full success of the council in its program lies in the future, but already the work has proven beneficial to fraternities at Minnesota.

Scholarship.—At the end of the college year, 1935-36, the academic fraternity average had risen to 1.16. This was one of the best comparisons during recent years with the all-university men's average of 1.21 as of the same date. During the college year 1936-37, the academic fraternity average was 1.12, compared with an all-university men's average of 1.24. Over a period of the last twenty-one years, 1937-38 excepted, the average of academic fraternities stands at 1.054, while that of all men stands at 1.086.

It is regrettable that the academic fraternity average is not as high or higher than the present all-university men's average. I realize few, if any, authentic comparisons have shown fraternity groups to be better in scholarship than nonfraternity groups. Without any attempt to defend the present comparative showing at Minnesota, it is my feeling that the basis of our comparison is somewhat faulty. I believe that we should either compare all fraternities, both academic and professional, with all other men or we should break down our present comparison to show fraternity comparison within each college branch with the averages of those colleges. It is my intention, through the Interfraternity Statistical Bureau, to pursue this problem further.

More important than the factor of comparison is the fact that we are now able to recognize a change in fraternity attitude toward scholarship, slight though the indication is. During the past two years I believe it has been shown by the following:

1. Pledge membership of academic fraternities had a scholarship average for the fall and winter quarters of 1937-38 of .999. A brief survey indicates that the average of pledges during the past year was one of the highest averages yet attained by such a group.

2. Sixteen academic fraternities have accepted a resident house counselor, whose duties include assistance with individual and group scholarship problems.

3. Fraternities are placing more importance in the fall quarter scholarship record of men being considered for membership. It is evident that these reports issued by the Interfraternity Council under the supervision of the dean of student affairs are desired.

4. There is consideration of a ruling requiring a specific scholastic average for eligibility to pledge. A number of groups are already practicing this informally, and will not pledge any man who has failed to achieve the scholastic average required for graduation in the college of his registration.

It is my feeling that the officers of the council have materially stimulated thought and discussion among all fraternities concerning the vital problem of their relationship to the college.

Membership.—During the biennium membership totals have increased. Table I gives a comparison of membership, actives and pledges, of the Academic Interfraternity Council for the years 1927-28 through 1937-38. The comparisons clearly indicate improvement in membership. The average per group of 48.54 men is the next to the highest average over a period of eleven years. The aggregate number of men affiliated with groups is 1,262. This total is also a maximum since in the other years of 1929 through 1931, when a larger total number of members is shown, there were 29 groups, while in 1937-38 there were only 26. The percentage of college enrolment in fraternities has dropped because of the large increase in total male registration during the biennium.

TABLE I. MEMBERSHIP STATISTICS

| 1927-28 | 1928-29 | 1929-30 | 1930-31 | 1931-32 | 1932-33 | 1933-34 | 1934-35 | 1935-36 | 1936-37 | 1937-38 | Eleven-Year Average | Previous All-Average |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------------------|-------------------------|
| <i>Total Number of Active and Pledge Members in All Fraternities</i> | | | | | | | | | | | | |
| 1,199 | 1,389 | 1,371 | 1,440 | 1,358 | 1,226 | 1,204 | 1,180 | 1,153* | 1,168* | 1,262* | 1,268 | 1,280 |
| <i>Average Number of Active and Pledge Members in Each Fraternity</i> | | | | | | | | | | | | |
| 41.34 | 47.9 | 47.27 | 49.65 | 46.82 | 42.27 | 41.51 | 40.69 | 41.17 | 44.92 | 48.54 | 44.73 | 44.29 |
| <i>Net Total Men Students in University. Academic Year†</i> | | | | | | | | | | | | |
| 7,807 | 8,195 | 8,322 | 8,652 | 8,771 | 8,102 | 7,872 | 8,736 | 9,556 | 10,266 | 10,626 | 8,810 | 8,446 |
| <i>Percentage of Total University Enrolment in These Fraternities</i> | | | | | | | | | | | | |
| 15.35 | 16.95 | 16.47 | 16.64 | 15.48 | 15.13 | 15.29 | 13.50 | 12.06 | 11.38 | 11.87 | 14.56 | 15.20 |

* Years 1927-28 through 1934-35—basic 29 members Interfraternity Council.

Year 1935-36—basic 28 members Interfraternity Council.

Year 1936-37 through 1937-38—basic 26 members Interfraternity Council.

† Official registration of men—Table I. Report of registrar. This net total includes Graduate School enrolment. Statistical record still has included Graduate School students although no Graduate School fraternity members are included in group membership lists.

NOTE.—Recognizing the above figures, the following factors should be considered:

1. In collecting the total for each fraternity, active and pledge members are combined. Graduate students, or those students pledged but dropped prior to midquarter, are not included.
2. The figures do not show the extent of dispersion around the mean. However, the averages of the individual fraternities range a low of 28.46 to a high of 63.54. This is a favorable comparison with a 1935-36 low of 26.55 and a high of 63.33.

Although significant, Table I does not give the best basis for membership analysis, because as membership in the University fluctuates *by quarters*, so will fraternity membership. Table I was compiled from the count of members who had at least *one quarter's* association with the fraternity. For the reason that membership strength should be based on a *full year's* residence, I have prepared a comparison on a per man unit basis *covering the whole year* (Table II). This provides a more adequate basis of judgment for loss or gain in membership strength.

TABLE II. MEMBERSHIP STATISTICS ON BASIS OF
FULL YEAR'S MEMBERSHIP*

| Units | 1936-37 | 1937-38 | Two-Year Average |
|---|---------|---------|---------------------|
| Total number of units of men, actives and pledges, members of all fraternities..... | 988 | 1058.4 | 1023.2 |
| Average number of units, actives and pledges, members of each fraternity..... | 38 | 40.7 | 39.35 |

* Total membership has been reduced to membership for a full year, i.e., a pledge of January 1 actually is a member only during two quarters. He, therefore, classifies for comparison as a $\frac{2}{3}$ unit.

Rushing.—Except for one year, rushing has been under the deferred system since 1924-25. After one year's trial of fall rushing, 1935-36, fraternities almost unanimously voted to return to the deferred system. The wisdom of this is shown by a steady increase in the number of men pledged:

| | | | |
|--------------|-----|--------------|-----|
| 1934-35..... | 426 | 1936-37..... | 498 |
| 1935-36..... | 440 | 1937-38..... | 561 |

It would seem that the decided increase in average chapter strength has resulted in part from a better selection through deferred rushing.

Finances.—There has been during the biennium a marked improvement in the general financial condition of academic fraternities. Although problems have not all been solved, there is only one group in a weak condition. It is not necessarily true that membership increases always bring greater financial strength. At Minnesota the maximum financial trouble came between 1927 and 1930 when membership was at its peak. This seeming paradox could be traced to bad management and lack of education concerning financial responsibility. I believe that the improved financial condition of the biennium may be traced to the following factors, as well as increased membership strength:

1. The acceptance of professional accounting and managerial assistance. At the close of 1937-38 twenty members of the Academic Interfraternity Council receive either the accounting and managerial services offered by the office of the dean of student affairs or by some private firm or individual.
2. The establishment of a Fraternity House Manager Association.
3. The education of members as to their individual financial responsibility. A definite attempt has been made by the Interfraternity Council and the financial adviser for student organizations to have every fraternity man better informed on the importance of a creditable group standing.

Guidance and counseling.—Advice and counsel to groups and individuals of the fraternity system is given through two mediums.

The adviser to the Interfraternity Council is the first. My work in this capacity during the past year has grown considerably. It has been gratifying, as a new adviser to the fraternities, to find a ready reception as an administrative official of the University.

The second phase of the general guidance and counseling program for fraternities takes root in "The Minnesota Plan" established jointly by the Interfraternity Council and the University in 1934. The objective of this work has been to correct the two outstanding weaknesses found in many fraternal groups at Minnesota: (1) in relation to finances; (2) in relation to personnel.

During 1937-38 sixteen fraternal groups accepted the fraternity business and accounting service offered through the financial adviser for student organizations, which provides:

1. Full accounting service
2. Standardized procedure and reports
3. Monthly audit of chapter financial officers
4. Advice on budgeting
5. Advice on purchases
6. General management counsel and establishment of long-term financial planning

Over a period of years it is clear that the service offered by the University will greatly strengthen the financial stability of the fraternity groups.

During 1937-38, sixteen academic social groups had a graduate counselor. The counselor, to be most effective, lives in the house and assists in group development of a sound policy. It is my feeling that the greatest value may be shown by the important phases of work in which the counselor interests himself, such as:

1. The opportunity to work closely with individual members of the group on their scholastic, social, and other personnel problems.
2. The opportunity to aid the officers of the group in a better understanding of the proficient performance of their duties and responsibilities.
3. The opportunity to stimulate general group morale and establish sound group policies.
4. The opportunity to serve as a liaison officer among individual members of the chapter, or the chapter as a whole, and their alumni, the faculty, and the administration of the University.

It is under these headings that the general guidance of fraternities at the University has been carried out during the past biennium.

Projects.—I shall outline the primary projects of the Interfraternity Council under two classifications, social and educational.

1. Social—

1. *Fraternity outing.*—During the past two years the first meeting of the council has been held at Camp Iduhapi during the week end prior to the opening of college. Necessary business of the council is carried on, but the main purpose is to acquaint members with one another.

2. *Interfraternity ball.*—This low-priced formal function is the primary social event of fraternities.

3. *Pledge party.*—This event was introduced in 1937-38 under the auspices of the Pledge Relations Committee to provide an opportunity for new affiliates of fraternities to work together and become acquainted.

4. *Fraternity Christmas party for under-privileged boys.*—This is a welfare project sponsored in co-operation with the Big Brothers of Minneapolis. In 1937-38, four hundred boys, between the ages of eight and fourteen, were entertained.

5. *Spring banquet.*—At this the awards are made to senior members of the council, and the work of the year is briefly reviewed. An outside speaker discusses a topic of general interest.

2. Educational—

1. *Pledge Relations Committee.*—The basic purpose of this committee is to originate a program which will bring pledgemen from various houses together and at the same time furnish beneficial information concerning the special environment to which they have just pledged themselves.

2. *Fraternity Week.*—The second annual Fraternity Week was held in 1937-38. The purpose is to supplement the individual pledge program of each house with a series of meetings and discussions just prior to the initiation of the pledge into active status. This idea originated at Minnesota in 1937. Although the council has not made it a prime objective to substitute their program for the old-style "Hell Week," most fraternities are now abandoning rough initiation, and are substituting an educational program.

3. *Fraternity Public Relations Bureau.*—The purpose of the bureau, founded in 1934, is twofold:

- a. *Public relations.*—To furnish authentic and accurate information to the press. Although fraternities still are publicized in an undignified manner, the bureau has helped in the problem.

THE PRESIDENT'S REPORT

b. *Supervision of council publications.*—Publications sponsored by the council during the past biennium are as follows:

Fraternity Men at Minnesota. Issue No. 3, 1937, Issue No. 4, 1938.—This magazine is mailed to a majority of incoming freshman men each fall to acquaint them with fraternities at Minnesota and, if possible, to correct any false information they may have gained previously concerning the relationship of the fraternity system and the University.

Fraternity Training Manual. Volume I, 1937, by Rolf Haugen.—This manual presents the proper pledge orientation program that may be practiced within each individual fraternity.

A Manual of Practice. Volume II, 1937.—This was written by the house counselors, groups, each individual member contributing an article relative to the operation and organization of a fraternity.

Rushing Hand Book. 1938.—This was given to each man who was rushed by a fraternity during the formal period in the winter quarter.

The Interfraternity Council has in the process of preparation two other manuals: *Manual of Fraternity Business Practice*, by C. S. Geddes, and *Collection of Fraternity Week Speeches*.

4. *The Fraternity Statistical Bureau.*—This was started in 1937-38. Several studies relative to fraternity conditions are being developed among which are: A study in attitudes of fraternity and nonfraternity men and a scholastic mortality survey.

Respectfully submitted,

CARROLL S. GEDDES, *Advisor.*
Interfraternity Council

DEAN OF WOMEN

To the President of the University:

SIR: The dean of women submits the following report for the biennium 1936-38.

So far as the general aspects of the women's life on the campus are concerned, there is no marked change in conditions. The economic upswing was too brief to affect student life and activities materially. The tendencies reported upon in 1934-36 have continued, and perhaps have been intensified. The expectation on the part of students that society shall assume further obligations for them, rather than that they shall do more for themselves, seems to some of us the most unfortunate outcome of the whole depression period. On the other hand, the leaders among the students are definitely assuming greater responsibility for the welfare of their fellows. They are promoting social and scholastic activities, which will attract more students and provide a wholesome opportunity for development. This has been particularly marked in the social field. The women's organizations have been studying their own programs to see whether they are meeting the needs on this campus, as they understand them. They have discarded outworn activities, and have reorganized their work and programs to initiate new activities which shall more nearly meet the needs, and to emphasize those activities which are really functioning. Moreover, the men's and women's groups, through the Social Coordinating Committee, are working together much more intelligently and intensively than ever before, and the co-operation of all the organizations with each other and with the administration has been most marked during this biennium. The imminent materialization of the long-wished for Students' Union has given new impetus to this joint activity.

HOUSING

Dormitories.—The plans for the new dormitory for women students have been discussed most eagerly and scanned most interestedly by the Minnesota women. They are enthusiastic over the site chosen, the type of building proposed, and the room arrangement and furnishings suggested.

Sanford Hall.—Sanford Hall has been completely filled for both years of the biennium, and we have had to turn many students away. Even with the increased capacity of the new dormitory, it will be many years before we can build enough residences to take care of the women students who prefer to live in college houses.

Louise M. Powell Hall.—Louise M. Powell Hall (Nurses' Hall) continues to be a fine educational laboratory. Its recreational facilities draw groups from the entire campus, and the students in nursing feel little of their former isolation.

Co-operative cottages.—The problem of the self-supporting girl with small resources is extremely pressing. If we had space for twice as many students we could easily fill the rooms in our co-operative cottages. It is unfortunate that these self-supporting girls should be our most inadequately housed. The present cottages were originally planned for family life, and are therefore decidedly inadequate for the groups we have to house. In spite of the rising cost of food and service, we have maintained the cost to the individual girl at under \$60 a quarter for the last two years. One hundred nine women have lived in eight cottages. In 1938-39 we shall have a ninth house. The students are enthusiastic over this small-group housing, with the reduction in cost due to the large-unit operation of the dining room. The University should make a study of the possibility of erecting a properly

and adequately designed building, which can be operated at this low cost overhead, so that the self-supporting girl may have opportunity for an education.

Home Economics Dormitory.—We have continued to use the Home Economics Dormitory on the Farm campus for university students taking work there. Because this dormitory serves no meals, the social life is far less complete and less satisfactory than in the other university owned houses.

Rooming houses.—All houses where students live are inspected and graded by the director of the Housing Bureau or her assistant. We continue to hold monthly meetings of our householders' organizations. During the past year several of the older houses on the campus have been completely made over and attractively furnished, so that it has been possible to offer our students a range of living from the really elaborate, modernized, and beautifully furnished room which some of them feel that they can afford, to the humbler type of room which, because of the lower cost of the original furnishing and upkeep, can be offered to the student at a price as low as \$10 a month. It is essential that we maintain this range, since to insist that all houses be of the top grade would make costs prohibitive for the student of limited means.

STUDENT ORGANIZATIONS

Women's Self-Government Association.—This continues to be the strongest and the most useful single organization for women on the campus. In 1936-37, the president was Miss Jean Myers, and in 1937-38 Miss Mabeth Skogmo. The president is assisted by a board, elected and appointed, of some twenty-two women who administer the organization. They have continued to give to women students scholarships financed from the profits of the bookstore. They are putting emphasis on Campus Sister work which helps the new student to adjust herself to the campus, and they are continuing to emphasize the social opportunities, both for women working and playing together, and for women and men. They have co-operated in all the campus programs for low cost social entertainment, and they have continued their own Sunlites, and the noon hour programs for women students alone.

Young Women's Christian Association.—Miss Elizabeth Ann Fitch in 1936-37, and Miss Kathleen Watson in 1937-38, headed the Young Women's Christian Association. Miss Jane Bradley has continued as full-time secretary. The membership increased to 1,462 members during 1937-38. During the past two years the association has co-operated with many other all-university groups.

The Religion Committee has sponsored a series of discussions in Shevlin Hall. During the past two years the interest in discussion of problems relating to religion has increased.

The Public Affairs Committee under Miss Ruth Anderson has met the need of providing for students' discussion on questions of national and international importance. Two members from the University Young Women's Christian Association in 1937 attended the National Conference on the Cause and Cure of War.

A new committee added during 1937 was named the Foreign-Country Club. This has as its primary purpose the exploration into the cultural backgrounds of nationality groups.

The Social Service Committee has continued to work with the social work agencies in the Twin Cities in supplying volunteer assistants. Two new projects were added, the Well-Baby Clinic and Southtown Children's Dental Clinic. The committee also sponsored six courses for the training of volunteer workers.

Women's Athletic Association.—Under the leadership of Miss Anne Brinley and Miss Phyllis Ziebarth, the Women's Athletic Association is coming to fill a larger place in the social life of the women students, since it affords many young women the opportunity of recreation other than social dancing. Their new building and the new Women's Athletic Association room have given them a center for their program.

Mortarboard.—Mortarboard, the senior honorary society for women, has taken an important part in the work of the women students for the past several years. It has undertaken the task of serving as hostess in the Fine Arts Room and the University Art Gallery.

Sororities.—Although the sororities are still feeling the effects of the depression, no new losses of charters have occurred. Financially they are in fine condition. Two national groups are still on probation because of low scholarship and small numerical strength. Two new local groups have been formed on the campus.

Scholarship still proves a great problem within the sororities themselves, and although they are working to raise the standards, the scholastic average continues distressingly low. Panhellenic Council is doing everything in its power to stimulate interest in scholarship, to co-operate with the administration of the University, and to help individual sorority members. For two years Panhellenic Council has given six awards of \$50 each during the school year to Panhellenic members, preferably women in upper classes who by scholastic strength and by leadership within their groups and within the council, seem to their committee deserving of the award. They continue to maintain their loan fund. They are also studying the problem of lessening friction between the groups and have decided to do away with sales campaigns where competition between teams leads to bitter rivalry.

Shevlin Hall.—In 1937-38, we converted one of the larger of two rest rooms on the south side of the building into a new office for the Women's Self-Government Association, and refurnished it completely. With the beginning of 1938-39, we are refurnishing the Young Women's Christian Association office, and are also refurnishing some of the lounges. It has been impossible to continue Shevlin cafeteria service to the student body. The cafeteria has been converted into a lunchroom for those students who bring their own lunches, and we have maintained only a counter serving beverages, one hot dish, sandwiches, and fruits.

Chaperonage.—Checking on parties held by students has over a long period of time shown definite results. The comments of chaperons are much more favorable than they used to be, and the student groups themselves are far more co-operative. The limitation on the number of parties has been accepted as a wise provision, and in some instances has even been welcomed as an economic relief to the group.

Farm campus.—On the Farm campus, both the Young Women's Christian Association and the Women's Self-Government Association maintain separate boards which co-operate with the boards of the same organizations on the Main campus. The unified interests of the Farm campus students make it possible for these organizations to work successfully and to carry on an independent though co-ordinated program with the Main campus organizations. Beginning in 1938-39 space is being made available for enlarging the Students' Union on the Farm campus, and a newly constituted board of women students, called the Shevlin Board, has been set up to work with the Men's Union Board, and with a group of faculty and administrative members in providing increased social opportunities for both the men and women students on the Farm campus.

The dean's duties.—To many people the chief function of the dean of women appears to be disciplinary, but in actual practice this is a minor portion of her work. Far more time is given to helping create conditions which will avert the need of discipline than to actual discipline itself. In some ways the dean of women may be considered a liaison officer, since many times her most useful function is to put a student in touch with the particular officer or service which can help her to solve her problem, whether it concern health, vocation, finances, emotions, or curriculum. To this end, the dean of women has constantly co-operated with all-university student services. Many times it has seemed as though her chief function were to listen with the friendliness of a mature woman to the student's discussion of her own difficulty, and to help her to reach its solution herself by enabling her to put it into words. While no numerical listing of individual contacts can be submitted, they are a regular part of every day's work over the whole gamut of student problems. Perhaps the greatest immediate need of this office is increased personnel, an assistant dean of women, who would be able to devote her whole time to the problem of the freshman students.

Respectfully submitted,

ANNE DUDLEY BLITZ, *Dean of Women*

UNIVERSITY TESTING BUREAU

To the President of the University:

SIR: I submit herewith the report of the University Testing Bureau for the period July 1, 1936 to June 30, 1938.

Counseling services to students.—Since 1932, its first year of operation, the Testing Bureau has steadily increased its counseling service to faculty counselors and students, as shown in Table I. The total case load has increased 123 per cent since the biennium 1932-34. The increasing proportion of student cases voluntarily seeking assistance is a further indication of the bureau's importance in the University's personnel program. Especially significant is the proportion of students counseled prior to or during their freshman year. Early assistance with problems of adjustment to the University is undoubtedly more effective than assistance given after problems have developed.

TABLE I. CASE LOAD OF THE UNIVERSITY TESTING BUREAU

| | BIENNIAL TOTALS | | |
|---|-----------------|---------|---------|
| | 1932-34 | 1934-36 | 1936-38 |
| Total student cases..... | 2,209 | 4,325 | 5,031 |
| New cases | 2,057 | 2,925 | 3,946 |
| Continuing cases* | 152 | 1,400 | 1,085 |
| Referred cases | 1,200 | 2,262 | 1,766 |
| Volunteer cases | 1,009 | 2,063 | 3,265 |
| Men | 1,284 | 2,648 | 3,099 |
| Women | 925 | 1,677 | 1,932 |
| Total freshman and precollege cases | 1,367 | 2,095 | 2,846 |
| Student visits to University Testing Bureau | 9,134 | 28,498 | 30,305 |

* Cases returning to the bureau after an initial contact in the preceding biennium.

The work involved in diagnosing and counseling 5,031 students, who made a total of 30,305 visits to the bureau and were given a total of 8,176 interviews, is especially heavy for the staff of two counselors. Each student case requires, on the average, over twelve hours of assistance. This volume of work was made possible by the careful organization of services and through the assistance of WPA clerical workers. As rapidly as possible the bureau's staff must be increased to handle the increasing demands for assistance.

This need is also demonstrated by the fact that during the biennium a much greater amount of data necessary to effective counseling was made available to the bureau's counselors; 11,268 units were collected from other departments and 35,062 units from the students themselves. An improved quality of counseling has paralleled this increase in case data, but its collection has greatly taxed the staff.

Service to departments.—In addition to counseling service for students, the bureau provides a testing service for departments and colleges. The results of this testing are used as a basis for admissions to the University and its colleges and for research studies. For these purposes, it is especially necessary that trained examiners administer the tests and that skilled clerks score them. The meaningless results of many testing programs arise from faulty administration and inaccurate scoring. During the biennium the bureau administered a total of 50,050 tests (in addition to the 35,062 noted in Table II) as compared with 31,268 tests given in 1932-34. In addition, 133,043 tests were scored and reported to departments and

TABLE II. CASE SERVICE STATISTICS

| | BIENNIAL TOTALS | | |
|--|-----------------|---------|---------|
| | 1932-34 | 1934-36 | 1936-38 |
| Data collected from other agencies | | | |
| Entrance test ratings | 1,423 | 2,544 | 3,461 |
| Grades | 653 | 1,451 | 819 |
| Health Service reports | 828 | 1,623 | 187 |
| Clearance slips via contact desk | 2,747 | 4,351 | 6,617 |
| Reports from college counselors | 478 | 95 | 184 |
| Total data collected from other agencies | 6,129 | 10,064 | 11,268 |
| Number of interviews with cases | 4,529 | 6,075 | 8,176 |
| Reports to college counselors and administrators | 1,531 | 2,395 | 2,407 |
| Data collected from students | | | |
| Vocational interest tests | 1,390 | 2,677 | 3,756 |
| Scholastic aptitude tests | 2,121 | 3,041 | 4,052 |
| Special aptitude tests | 1,759 | 3,099 | 4,253 |
| Achievement tests | 2,585 | 4,935 | 9,283 |
| Reading tests | 106 | 287 | 1,305 |
| Personality inventories | 1,392 | 5,531 | 9,823 |
| Case history forms | 1,512 | 2,046 | 2,590 |
| Total data collected from students | 10,865 | 21,616 | 35,062 |

officers of the University. This is a marked increase over the 81,791 tests scored in 1932-34.

Training facilities.—The type of clinical services provided by the bureau has proved to be of marked interest to personnel workers in high schools and in other universities. This interest has produced a large volume of correspondence concerning the details of this type of counseling. There has been an especially large number of requests for record forms and lists of tests. In addition, many visitors have inspected the bureau's case folders and quarters. In co-operation with the Department of Psychology and the College of Education, clinical training was given to high school and college counselors in graduate courses.

Research.—Research on problems of student personnel methods and techniques has been conducted and studies in evaluation of counseling techniques have been carried to completion. Additional studies have been made on tests for analyzing students' aptitudes and interests.

Retrospect and prospect.—Since its organization, the bureau has labored under severe handicaps. A heavy and continuing increase in demands for assistance from students and faculty counselors has characterized this period. These demands had to be met at the same time that experiments were being made on techniques and procedures. A limited budget and an inadequate staff have added to the difficulties of perfecting this counseling service.

Every indication points to future increases in the demands for the bureau's services, and while it is gratifying to note that the bureau has contributed to the development of a more adequate personnel program these increases in work load cannot continue indefinitely without adjustments in staff and budget.

In relinquishing responsibilities for the bureau's program at the end of six years, the writer bespeaks for the new director, Dr. John G. Darley, continuation of support and co-operation from the other departments in the University.

Respectfully submitted,

E. G. WILLIAMSON, *Director*

BOARD OF ADMISSIONS

To the President of the University:

SIR: The Board of Admissions is appointed annually by the president of the University. For 1936-38 the membership included Clyde H. Bailey, Harl R. Douglass, W. T. Ryan, R. M. West (secretary ex-officio) and C. M. Jackson (chairman). The duties of the board are (a) to have charge of the administration of the university entrance requirements, and (b) to investigate problems relating to the admission of university students. Matters of general policy are determined by the Board of Admissions. The routine administration of the rules for entrance has been delegated to the university registrar, who is ex-officio a member and secretary of the board. The usual statistics concerning admission to the various colleges of the University will be presented in the separate report of the registrar. A separate report is also made by the director of the University Testing Bureau, an all-university organization for which the Board of Admissions has served as an advisory committee.

For several years the Board of Admissions has conducted a series of comprehensive investigations to determine what factors are of most value in predicting the scholastic success of students in the various divisions of the University. Special studies were made in the School of Nursing, the Medical School, the School of Dentistry, the College of Pharmacy, the Law School, the School of Business Administration, the General College, the College of Science, Literature, and the Arts, the College of Agriculture, Forestry, and Home Economics, and the Institute of Technology. These studies were made under the general supervision of Professor Harl R. Douglass, with the assistance of special committees from each faculty concerned. The studies in the College of Agriculture, Forestry, and Home Economics were in charge of Dean E. M. Freeman and Professor Palmer O. Johnson; those in the College of Science, Literature, and the Arts were supervised by Professor Edmund G. Williamson. The Committee on Educational Research has also operated, especially in the provision of financial assistance.

These research studies have in general been brought to a conclusion during the present year. As indicated in the last biennial report, the results have varied somewhat in the different divisions, but they justify some rather important conclusions as to the best methods of selecting, admitting, and advising students. It is hoped that these investigations may soon be published in detail. They contribute valuable additions to our knowledge of the factors involved in the requirements for admission of university students. They also provide tests which yield useful information for the later educational guidance of students.

Respectfully submitted,
C. M. JACKSON, *Chairman*

DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

To the President of the University:

SIR: I submit herewith the report for the Department of Physical Education and Athletics for Men for the years 1936-37 and 1937-38.

Significant activities.—Items of special importance and interest that have been conducted by the department during the past two years are briefly listed:

1936-37

1. Conduct of the National Collegiate Swimming Meet.
2. Conduct of an Intersectional Ice Hockey Series with Dartmouth College.
3. Assistance in the conduct of the Northwest Gymnastic Meet.
4. Conduct of state high school championship meets in golf, tennis, track, swimming, and wrestling.
5. Conduct of Northwest Baseball School.

1937-38

1. Conduct of the national collegiate track and field championships.
2. Conduct of an intersectional ice hockey series with the University of Toronto.
3. Conduct of the Western Conference Golf Tournament.
4. Conduct of the Western Conference Gymnastic Championship Meet.
5. Conduct of the Western Amateur Junior Golf Tournament.
6. Conduct of state high school championship meets in golf, tennis, track, swimming, and wrestling.
7. Conduct of the State American Legion Baseball Tournament.
8. Conduct of the Northwest Baseball School.

Intercollegiate athletics.—The statistical tabulation indicates the extent of intercollegiate athletic activities in the past two years. The important items are summarized below and a comparison is made with the two preceding years.

| | 1934-36 | 1936-38 |
|--|---------|---------|
| Number of contests | 234 | 227 |
| Number of conference contests | 118 | 122 |
| Number of nonconference contests | 116 | 105 |
| Contests won | 136 | 141 |
| Contests lost | 84 | 77 |
| Contests tied | 3 | 6 |
| Number of Varsity men competing | 2,095 | 2,624 |
| Conference championships | 6 | 6 |

The championships include one national championship in football and conference championships in football, golf, gymnastics, and ice hockey. The football teams continued their enviable record and the basketball teams made excellent records in both conference and nonconference competition.

Athletic receipts for 1936-37 and 1937-38 were the largest in the history of the institution. It is our opinion that receipts for the coming two years, although they will not equal the past, will be more than sufficient to maintain and carry the program. It is impossible to make a correct estimate as they are dependent upon outstanding football and basketball teams.

Intramural sports.—The Intramural Department has made a distinct effort to provide athletic competition for as many men as possible. The athletic facilities of Cooke Hall have been widely used and sports participation as recreation is rapidly increasing. An important part of this phase of the work was the promotion of

coeducational athletic activities. A number of athletic nights for men and women were held in Cooke Hall. Participation in recreative activities such as badminton and golf showed a marked increase in the past two years. There is, however, a distinct need for expansion of facilities for outdoor activities so that more students can participate in healthful physical recreation.

Study in physical education.—The department has continued to promote the study of physical education and related activities in the two towns of Glencoe and Litchfield. The original three-year project under the direction of Carl L. Nordly has been completed. These studies have attracted national attention. The programs that are being conducted in these two communities are proving of value to the communities themselves and also to the entire state. Although the original project was planned for three years only, the department will continue to keep in contact with it and utilize the research opportunities which it presents.

Research in physiology.—Dr. Ancel Keys was appointed as associate professor of physical education and physiology in 1937-38 to direct research in the physiology and biochemistry of normal human activities with emphasis upon physical exercise. Laboratory space was provided by the Department of Physiology in Millard Hall and equipment was provided from athletic receipts. It is hoped that the existing plans for expansion of this laboratory can be carried out in the near future. Only one other college in the United States has a similar project and when the new installations are made the University of Minnesota will have fairly complete laboratories for the study of normal human activities which will compare favorably with similar laboratories at Harvard, Copenhagen, Berlin, Hamburg, Tokyo, Leningrad, and Moscow.

The work of Dr. Keys in this field is attracting widespread attention. This research laboratory under his direction will be a valuable asset to the University and will contribute vastly to the knowledge about the normal human being.

Teacher training.—The training of teachers for the field of physical education has always been a function of this department. Graduates from this curriculum are employed in school systems and other agencies throughout the country and a high percentage of men who have completed this work are now in responsible positions. All graduates of the 1936 and 1937 classes who desired teaching or coaching positions were placed soon after graduation.

A significant development in this phase of the program during the past year was the establishment of a five-year curriculum in physical education leading to a master of education degree. The course is administered by the College of Education. This curriculum satisfies a long felt need for graduate work in this field and will be a real contribution to the teaching of physical education.

Respectfully submitted,

FRANK G. McCORMICK, *Director*

DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

To the President of the University:

SIR: Herewith I submit my report of the Department of Physical Education for Women for the biennium 1936-38.

General trends in the program.—The trends of the program in both the required and elective areas have been toward additional opportunity for class instruction on the higher levels of skill; more dependence on student initiative in the improvement of posture; the introduction of certain nonactivity courses open to a limited group; more variety and informality in the costumes used for the activities.

It has become increasingly clear that the students desire opportunity for the acquisition of greater skill in chosen activities. An addition of ten class sections on the intermediate and advanced levels has become necessary in the past biennium. Differentiating tests for elementary, intermediate, and advanced skills have become increasingly important and have had an augmented place in the program.

Registration in special posture classes has not been required during this biennium unless the posture picture at the end of the freshman year still shows need for improvement. Increasing attention has been paid to motivating the student's interest in good posture irrespective of what activity she is taking.

Two courses have been added that do not involve physical activity: Camp Leadership, and Sports and Dance Appreciation. It is hoped that the latter course will lead to wider interest and participation in sports and dance both during college years and afterward. Such a course appears to be an innovation in the profession. The course in Camp Leadership appeals especially to students who have already had experience in sports and are planning to be camp counselors in the summer.

Professional curriculum.—The authority given by the Board of Regents to the College of Education in the spring of 1938 to grant the degree of master of education in physical education to students who complete the five-year curriculum in physical education marks an important advance in the development of the department, which can now take its place with those of other state universities in offering graduate work. It can respond to the needs of graduate students who wish to do advanced study in physical education at the University of Minnesota. This department anticipates close co-operation with the College of Education in the development of policies concerning the selection of students and their adjustment to the new set-up.

The five-year curriculum is the result of four years of co-operative effort. It is set up on the two-three basis. Undergraduate students will be expected to make their choice at the end of the second year and if they desire to work for the Master's degree will at that time receive guidance in arranging their plans for the following three years. It will still be possible for other students to graduate at the end of four years with a Bachelor's degree. Graduate students will be guided in the choice of their courses according to their previous training and experience. The undergraduate courses will, as at present, be separate for men and women; the graduate courses of both departments will be open to both men and women.

The State Department of Education has taken an advanced position in requiring some professional training in teachers of physical education even though they

teach it only part time. The regulation of a minimum preparation of nine quarter credits of professional training is announced to go into effect September 1, 1938. Many states have no such published requirement.

The State Department has announced that the minimum preparation will be raised in the near future to a minor in physical education for all new teachers; and the minor offered by this department has been revised to conform to the State Department plans after careful study of the relation of the nine-credit endorsement and the minor and major curricula.

University High School.—For four years, under the direction of this department, an experimental program, involving the classification of the students for their physical education program, has been under way in the University High School.

In the past two years the teaching program in the University High School has also been used increasingly for demonstration purposes for instruction of college students who are majoring in physical education, and for practice teaching.

Program for academic students.—The average number of registrations each year in all classes of academic students for the biennium 1936-38 was 3,045, and 2,498 in the biennium of 1934-36. The gain of approximately 22 per cent exceeds the gain of less than 10 per cent in university enrolment for women during the same time.

Study of the registration in elective classes during the years since the abolishment of the requirement by the College of Science, Literature, and the Arts reveals no growing tendency for the less strong students to elect classes. Rarely do our enrolments include elective students who need special watchfulness on the part of the instructor, or exercise adapted to special needs.

Aquatics continues to be the most popular division of our program. It includes swimming and diving on the elementary, intermediate, and advanced levels, lifesaving, and elements of canoeing. Lifesaving, including the rudiments of canoeing, has received increasing emphasis in the aquatics program since we have had the additional pool. Tennis and archery are also popular.

Achievement tests have been used to sort students into uniform groups for purposes of instruction, to determine the improvement of students in the acquisition of skills, and to determine the strengths and weaknesses of an activity for purposes of instruction. In developing a testing program we have tried to avoid overuse which would kill student interest and have tried to give the tests a place which would appeal to the students as well as to the faculty.

Women's Athletic Association.—The relations of the Women's Athletic Association with the Women's Self-Government Association and the Young Women's Christian Association have been marked by unity of thought and effort and by trilateral social meetings of their boards.

In addition to promoting and playing a large part in administering a program of afternoon sports and a recreation hour at noon, W.A.A. has increased its efforts to reach the girls who cannot easily take advantage of this opportunity, such as the nurses, the home economics students, and others who have late laboratory hours. A successful program is developing.

Four clubs are now affiliated with W.A.A.: the Nimrod Club, the Badminton Club, the Aquatic League, and Orchesis.

W.A.A. sponsored skiing classes, composed of both men and women, in 1937-38.

Special projects.—In 1937-38, the department conducted a "posture week" in an attempt to arrest the attention of the students and make them posture conscious. As a result and with the help of the Minnesota Public Health Association the subject of posture is receiving unusual attention throughout the state.

A training course for women basketball officials has been conducted by members of the staff as a service for the Recreation Department of the Minneapolis Park Board, and to give our students an opportunity to improve their officiating skills and to secure ratings.

In 1936-37 a member of this staff was instrumental in interesting the teachers of physical education in Minneapolis and St. Paul to form the Twin City Women Officials' Rating Board, in order to improve the quality of the officials in the basketball tournaments conducted in both cities during the winter.

In 1938, at the invitation of the Duluth State Teachers College, the honorary dance group, Orchesis, gave a demonstration in Duluth of the modern dance.

The Central District of the American Association for Health and Physical Education held its annual convention in the spring of 1938 in Minneapolis, and two days prior to its meeting the Central District of the National Association of Directors of Physical Education for College Women held its annual meeting on this campus.

In the spring of 1937 the Committee for a National Study of Professional Education in Health and Physical Education and the National Rating Committee met in joint session and decided to carry on that year an experimental rating of a number of institutions, in an effort to perfect the rating procedures and the published standards relating to the preparation of health and physical education teachers for service in secondary schools. This department accepted the invitation to participate and received the rating form the following winter. The report became a department project and in March, 1937, was sent in to the chairman. It is a slow and somewhat discouraging task to evolve an acceptable set of standards for national rating. This department undertook to rate itself for the purpose of helping the National Committee with its important and difficult assignment, realizing the need of an instrument for measuring and raising the standards of teacher training departments and schools of physical education. The study turned out to be of importance also to the department in revealing its strengths and weaknesses as compared with the recommended standards. In general the result was gratifying.

The building.—The new facilities provided by the annex of the building have proved a blessing. The dirt-floored sports room is in use most of the time and has proved eminently well adapted to the purposes for which it was planned. Golf, archery, basketball, and fundamentals are among the activities that are conducted there. The deep pool is used entirely for those students who already know how to take care of themselves in the water, while the shallow pool in the main building is reserved for beginning classes and for general swimming where beginners may be present. The division of one of the gymnasia in the main building by a movable partition has made it possible to carry on all the orthopedic gymnastics there under agreeable conditions and to use the old orthopedic gymnastics room for a much needed classroom.

Respectfully submitted,

J. ANNA NORRIS, M.D., *Director*

EMPLOYMENT BUREAU

To the President of the University:

SIR: I submit the following report of the Employment Bureau for the years 1936-37, 1937-38.

On July 1, 1937 the Employment Bureau was expanded to take on the additional functions of a central employment office for the university nonacademic staff. Although there is much reciprocal dependence, the activities of the different divisions of the employment service will be reported separately.

Student employment.—Tabulated reports of student employment have heretofore appended figures on all of our nonstudent placements. In 1936-37 these numbered 407, mostly clerical. Obviously such placements in the University are now included in Table II, Nonacademic Staff. The small number of nonstudents placed outside the University is not reported. This minor accommodation service is limited to the requests that come from such organizations as fraternities, sororities, welfare organizations, state or federal offices or organizations, or occasionally from individuals closely associated with the University or staff members. Other outside requests for nonstudent help must of necessity be refused.

When compared with previous years student jobs and earnings have held up rather well during an uncertain period. However, the student employment service is far from adequate or from having attained its optimum usefulness. It needs promotional effort. New employers and employment managers are not acquainted with the service. We have found that in such cases a personal contact made by a member of the Employment Bureau staff is essential and effective. Present demands within the office preclude any field work. Moreover, it is even now impossible for the present staff to give the concentrated attention necessary to proper job filling and follow-up. The augmenting of the bureau's staff added nothing for student employment.

For some years we have recognized the need for closer co-operation between the employment and other student personnel services. By integrating our efforts in a student's behalf with those of such offices as the Health Service, the Testing Bureau, and the dean of student affairs, we should be able to make our placement work more significant.

NYA student employment is elsewhere reported by the chairman of the Committee on Student Work Relief. The details of administration of the program including the securing of applications, conferring with students, selection, appointments, work assignments, records, and statistical reports, directed by myself as executive secretary of the above committee, need only be mentioned here as one of the major responsibilities of the Employment Bureau.

Though exact figures are not yet available, an estimate from payroll records shows that some 2,800 students were employed by the University during 1937-38. This includes all those working either for cash or maintenance. There were over 500 of the latter. While the Employment Bureau interviewed all these students and certified their appointments, Table I includes only those placements where candidates were actually recruited by the bureau.

Nonacademic staff.—With the inauguration of a classification system to include the whole of the nonacademic staff, the executive body of which is the Committee

TABLE I. STUDENT EMPLOYMENT: PLACEMENTS AND EARNINGS

| | APPLICANTS REQUESTED | | | | APPLICANTS ACCEPTED | | | | AMOUNT EARNED | | |
|-----------------------------------|----------------------|---------|---------|---------|---------------------|---------|---------|---------|---------------|--------------|--------------|
| | Men | | Women | | Men | | Women | | 1936-37 | 1937-38 | Total |
| | 1936-37 | 1937-38 | 1936-37 | 1937-38 | 1936-37 | 1937-38 | 1936-37 | 1937-38 | 1936-37 | 1937-38 | Total |
| Athletic events | 1,059 | 1,295 | ..... | 1 | 1,059 | 1,295 | ..... | 1 | \$ 2,827.55 | \$ 4,074.63 | \$ 6,902.18 |
| Chauffeur | 21 | 59 | ..... | ..... | 19 | 58 | ..... | ..... | 1,755.40 | 953.95 | 2,709.35 |
| Clerk—Soda fountain | 4 | 5 | ..... | ..... | 3 | 5 | ..... | ..... | 645.00 | 589.00 | 1,234.00 |
| Clerk—Store | 126 | 90 | 17 | 56 | 102 | 84 | 14 | 55 | 7,603.05 | 6,746.79 | 14,349.84 |
| Draftsman | 35 | 34 | 2 | 3 | 33 | 31 | 2 | 3 | 1,772.55 | 1,512.60 | 3,285.15 |
| Housework | 11 | 7 | 206 | 217 | 9 | 7 | 127 | 136 | 15,770.90 | 17,985.95 | 33,756.85 |
| Janitor | 20 | 13 | ..... | ..... | 18 | 13 | ..... | ..... | 2,910.00 | 1,315.30 | 4,225.30 |
| Laboratory helper | 1 | 6 | ..... | 1 | 1 | 5 | ..... | 1 | 275.00 | 1,192.12 | 1,467.12 |
| Library ..... | ..... | 1 | 6 | ..... | ..... | 1 | 6 | ..... | 982.00 | 100.00 | 1,082.00 |
| Manual labor | 110 | 134 | 3 | ..... | 99 | 127 | 3 | ..... | 5,242.55 | 10,892.29 | 16,134.84 |
| Musician and entertainer | 70 | 56 | 5 | 1 | 68 | 54 | 4 | 1 | 497.42 | 992.50 | 1,489.92 |
| Nursemaid | 3 | ..... | 36 | 64 | 3 | ..... | 27 | 53 | 2,821.90 | 1,606.70 | 4,428.60 |
| Odd jobs | 478 | 387 | 24 | 15 | 460 | 380 | 19 | 14 | 3,028.00 | 2,441.86 | 5,469.86 |
| Office work | 127 | 112 | 262 | 635 | 123 | 109 | 241 | 630 | 17,551.73 | 22,282.76 | 39,834.49 |
| Oil station | 8 | 3 | ..... | 2 | 8 | 3 | ..... | 2 | 623.00 | 1,239.35 | 1,862.35 |
| Service jobs | 115 | 131 | 2 | 8 | 108 | 129 | 2 | 5 | 5,280.53 | 3,047.75 | 8,328.28 |
| Settlement house | 8 | 5 | 5 | 2 | 5 | 5 | 3 | 1 | 1,785.00 | 735.00 | 2,520.00 |
| Summer resort and camp work ..... | ..... | 24 | 1 | 10 | ..... | 19 | ..... | 9 | ..... | 4,092.50 | 4,092.50 |
| Telephone operator | 2 | 2 | 6 | 6 | 2 | 1 | 6 | 6 | 520.00 | 1,436.00 | 1,956.00 |
| Translation | 9 | 13 | 5 | 2 | 7 | 11 | 5 | 2 | 74.15 | 99.65 | 173.80 |
| Tutoring and teaching | 38 | 61 | 33 | 32 | 35 | 59 | 31 | 30 | 436.80 | 1,650.25 | 2,087.05 |
| Usher | 28 | 31 | ..... | ..... | 28 | 31 | ..... | ..... | 84.28 | 373.39 | 457.59 |
| Waiter | 452 | 333 | 67 | 90 | 406 | 323 | 50 | 77 | 26,749.50 | 20,253.80 | 47,003.30 |
| Sales on commission | 15 | 23 | 4 | 5 | 7 | 38 | 4 | 4 | 715.00 | 1,178.20 | 1,893.20 |
| Miscellaneous | 32 | 42 | 24 | 23 | 24 | 21 | 19 | 23 | 5,313.88 | 833.90 | 6,147.78 |
| Full-time permanent work | 54 | 46 | 73 | 65 | 39 | 24 | 67 | 56 | 85,278.63 | 70,292.50 | 155,571.13 |
| Totals | 2,826 | 2,913 | 781 | 1,238 | 2,666 | 2,833 | 630 | 1,109 | \$190,543.74 | \$177,918.74 | \$368,462.48 |

on Classification of Nonacademic Personnel, responsibility for the following details was allocated to the Employment Bureau:

1. Recruiting, interviewing, registration, and examination of applicants for nonacademic positions.
2. Certification of eligibility of applicants for employment and certification of all non-academic appointments as to eligibility of appointees, classification of position, and rates of pay.
3. The establishment and maintenance of personnel records, active and inactive, of all members of the nonacademic staff on both permanent and miscellaneous payrolls.
4. Certification for promotion and salary adjustments.

The occupational, aptitude, and mental tests are administered in the Testing Bureau according to specifications from the Employment Bureau. During the year, 1,565 individuals were tested.

A medical examination made in the Health Service is now required of each individual going into a permanent position in the nonacademic staff. The Employment Bureau arranges for the examinations and certifies only those appointees who are reported physically fit for the particular work required.

TABLE II. NONACADEMIC STAFF, 1937-38

| | REGULAR PAYROLL | MISCELLANEOUS PAYROLL |
|--|--------------------|--------------------------|
| Individuals recruited and placed..... | 103 | 659 |
| Appointments certified | 950 | 5,170 |
| Promotions, demotions, and transfers certified | 87 | |
| Salary adjustments certified | 293 | 438 |

One of our first achievements for the new system was the assembling of all the scattered data available on each individual who is or has been in the university employ. This was originally intended to include nonacademic staff only but it was later deemed advisable to include records of the academic staff since such records were not elsewhere assembled. From this evolved an inactive file containing the records of 10,000 or more individuals who have been employed previously on the university regular payroll and an active file (located in the comptroller's office) of the records of all present incumbents on both regular and miscellaneous payrolls. The continual use made of the active personnel files has been a surprise even to those who were most aware of the need of such centralized records.

In the Employment Bureau proper, files of qualified applicants for employment in all kinds of nonacademic positions are growing rapidly. The necessity for recruiting from outside agencies diminishes accordingly. Over 2,000 applications, nonstudent, have been received.

The Employment Bureau recognizes its share of responsibility in effecting the benefits that should accrue from the new merit system. We are now hindered in discriminating selection of candidates by the want of reliable or appropriate tests in fields other than the clerical. At present we can only test for basic abilities until examinations can be devised.

Sagacious recommendations for promotions require an acquaintance with the personnel, their abilities, service, and personal characteristics which can only be acquired gradually.

During the past year there have been numerous other items such as investigations, wage studies, classification problems, etc., that occupied much time of the director of the Employment Bureau as executive secretary to the Committee on Classification of Nonacademic Personnel.

Stenographic Bureau.—From a study of the Stenographic Bureau reports for the past four years it would seem that under present conditions the service might be approaching a maximum output of about 1,500 jobs per year.

TABLE III. TYPING JOBS AND INCOME

| YEAR | NO. OF JOBS | INCOME |
|--------------|-------------|------------|
| 1936-37..... | 1,181 | \$2,742.68 |
| 1937-38..... | 1,320 | 2,567.52 |
| Total..... | 2,501 | \$5,310.20 |

An analysis of original records shows that 2,081 of the student jobs were term papers and 130 were theses either for the Master's or the Doctor's degree. In view of the difficulties graduate students have had in getting their theses properly typed at a reasonable charge this service seems important.

TABLE IV. DISTRIBUTION OF TYPING JOBS BY ORIGIN

| YEAR | FACULTY | DEPARTMENT | STUDENT | TOTAL |
|--------------|---------|------------|---------|-------|
| 1936-37..... | 46 | 35 | 1,100 | 1,181 |
| 1937-38..... | 76 | 20 | 1,224 | 1,320 |
| Total..... | 122 | 55 | 2,324 | 2,501 |

During the biennium the bureau typed a number of important reports and research manuscripts as well as seven book manuscripts for faculty members. The most difficult of these was the transcription of two books on Canadian history from photostatic copy. Much of the original was handwritten and more than half of it was in French.

All outside work has been eliminated.

Conclusion.—Most business that comes to the Employment Bureau is urgent. There is no possibility of anticipating and fully organizing work. We have had to accept some justifiable criticisms from departments and other employers when their jobs could not be given immediate attention. We have made some unfortunate mistakes because we could not investigate candidates thoroughly, or properly follow up our placements.

I am hoping to eliminate some of these delinquencies by some plan whereby the two assistants can be relieved of Stenographic Bureau demands at least during peak periods.

Whatever the reason, there is a steady increase in the number of students who need the help of the employment service to enable them to attend school. We regret that our limited staff prevents our achieving more than we now do for them.

As for the nonacademic staff, the major problem with which the Employment Bureau is concerned at present is selection on a merit basis. The Committee on Classification of Nonacademic Personnel is working on this problem.

Respectfully submitted,

DOROTHY G. JOHNSON, *Director*

UNIVERSITY ART GALLERY

To the President of the University:

SIR: I submit the report of the University Art Gallery for the biennium 1936-38.

There have been several significant changes in the University Art Gallery during the biennium. Our physical needs as to exhibition space have been somewhat relieved by the addition of 726 feet to our available 305 feet in the main gallery. This additional space comprises the more or less segregated areas of the fourth floor corridor and the front and two side corridors of the third floor of Northrop Memorial Auditorium.

The WPA program.—Perhaps the most significant change results from an addition of personnel made possible in 1937-38 through the Emergency Relief, Works Progress Administration, of the Federal Government. Heretofore, NYA students have carried on all the work which had to be done in the gallery. This was not a solution of our personnel problem, because these students rarely had the training or qualifications, much less the time, vital to carrying on the varied activities and services of an art gallery.

On February 6, 1938, the Emergency Relief, Works Progress Administration, assigned to us a subproject of twenty workers. This is under the direction of the curator, with the actual supervision done by a WPA supervisor. A skilled writer prepares copy for the radio, the daily papers, and seven national art magazines. Several research workers are preparing a card index of all the printed material on American art from books in the Twin Cities, in addition to a central card index of the lantern slide art material held in the various departments of the University. They have also completed the compiling of material for a bulletin of the fine arts of the University. Several art-trained persons are preparing a pictorial library of all the arts, minor and major, to be made available to departments, students, and practice teachers, on our campus. Others are classifying and recording our originals and student print collections. Others make frames for the Student Loan Collection and a skilled artist paints these frames so that each has an individual treatment to suit the subject it frames. Another skilled artist makes posters for the bulletin boards, announcing the exhibitions, and also hand-printed explanation cards for the gallery, interpreting the exhibitions. The remainder of this personnel receive, ship, pack, unpack, and assist in the installation of traveling exhibitions. They also make the temporary equipment which is needed for installing these exhibits. Through the addition of space and personnel, the services of the gallery have been widened and its usefulness enlarged.

The Fine Arts Room.—This room has been increasingly useful to students, judging from the attendance of 23,973 persons who have used it throughout 1937-38. The art magazines and books are in constant use and students and visitors seem interested in the unique function this room performs. Several instructors have used the room as an illustration of modern interior decoration, room planning, and furniture design. The supervision of this room during the past two years has been taken over by members of Mortar Board as their service project.

The Print Room.—The Print Room is used as a depository of prints, the pictorial file, the card index of lantern slides, and the bibliographical and biographical index. Here small exhibits are shown which fit in with classroom instruction schedules.

Exhibitions and lectures.—The attempt has been made to keep the exhibition schedule varied and stimulating, as well as useful to classes in art. The curator spent the summer of 1937 on the west coast in search for new materials and the summer of 1938 touring the eastern cities and art centers. During these trips it has been possible to acquire a broad vision of the art activity in these important centers, to discuss progress and problems of galleries with gallery directors, to meet new and important artists and collectors, and to establish contacts with dealers. We thus keep our contact with art events fresh and original, and at the same time it is possible to study museum practices and policies. The additional exhibition space made available has resulted in an increase in the number of shows from 22 during the year 1936-37 to 52 during the year 1937-38. Now it is possible to bring several small exhibits at the same time—exhibits not arresting or important enough to the appreciative visitor in the main gallery—but of vital interest to instructors and classes in art. The exhibition schedule of the biennium follows:

1936-37

| | |
|-----------|---|
| September | Student Framed Prints. |
| October | Student Framed Prints*; Machine Art Show; Francis Handley Drawings. |
| November | Daumier Exhibition; University of Illinois Faculty Exhibition. |
| December | Doll Exhibition; Photography. |
| January | Art Here. |
| February | Henry Moore Sculpture; Negro Artists; Five Painters. |
| March | Persian Art; Ukrainian Easter Eggs. |
| April | Orrefors Glass; Carl Hofer Exhibition; Modern Architecture. |
| May | Austrian Show; Second Annual Big Ten Exhibition; Arthur J. Todd Pictures. |
| June | Kandinsky Exhibition. |
| July | Surrealist Show. |

1937-38

| | |
|-----------|--|
| September | Student Framed Prints. |
| October | Student Framed Prints*; Midwest Artists. |
| November | Commercial Printing; Fifty Best Books; Oceanic Exhibition; Archipenko Sculpture; Burton Etchings (faculty); Press Books; Richard Koppe Paintings. |
| December | Contemporary Mexican Painting; Bedrero and Martinez Exhibition; Modern Museum Sculpture; Minnesota Artists Union; College of Arts and Crafts, California. |
| January | Modern Architecture in England; Joseph Albers; Student Framed Prints*; Federal Art Project Lithographs; Kathe Kollwitz; Chouinard, Paintings and Drawings. |
| February | American Artists; Big Ten Exhibition; Architecture and City Planning; Ray Faulkner (faculty). |
| March | Crippled Children Handiwork; Lone Craftsmen Handiwork; Textiles; International Exhibit; Mills College Exhibit; Beginner's Photography at Minnesota; Edwin Ziegfeld (faculty). |
| April | Student Framed Prints*; Index of American Design; Collection of University Originals; Lyonel Feininger Exhibition; Photography; Chicago Public School Children's Exhibit; Josephine Lutz (faculty); Elmer Young (faculty). |
| May | Academic Costumes; McKnight Kauffer Posters; Western Arts Exhibition; Pittsburgh Plate Glass Competition; Leroy Turner (faculty); Gertrude Ross Handcraft (faculty); Hilma Berglund (faculty); Lucille Fisher (faculty). |
| June | Student Framed Prints*; Annual University Student Exhibit. |
| July | Trends in Modern Art. |

During 1937-38, 62 lectures were given on the various exhibitions by the curator, by members of the university faculty, and by individuals prominent in art in the Twin Cities. The aggregate attendance was 1,560.

* Student Framed Prints counted as one exhibit.

The annual Student Show and the one-man shows by the members of the art faculties of the University have been of interest to the students. The student exhibitions point out more effectively than a bulletin could the approaches and emphasis of the different art departments of the campus and their relationships.

Radio program.—To further the interest of the general public in the university art offerings, a member of the WPA subproject, with the assistance of federal students and under the guidance of the curator, prepared weekly radio announcements, in addition to two weekly radio programs. One of these programs, concentrating on the current exhibition at the gallery, was given each Thursday following the convocation broadcast, and the other on Friday on the topic "Art News of the Week," a discussion of the important news of the week in art, and of trends in modern art thinking.

As an effort to increase the cultural benefits of the exhibitions in the gallery, we published two catalogs during the year 1936-37, and five during the year 1937-38.

Student prints.—The rentals of prints from the Student Print Loan Collection have increased considerably. A careful study is to be made of the increasing art appreciation on our campus, and facts are to be collected concerning pictures that are the most popular with students.

The collection of originals.—More use is being made of our permanent collection of originals—oils, watercolors, textiles, ceramics, and glass. We are receiving many requests from schools and colleges for permission to borrow from this collection. The Federal Government has been generous in allocating to this collection twenty works of art this year, with the stipulation that these pictures are to be made available to schools and colleges throughout the country that may wish them for exhibition purposes.

The pictorial file.—The pictorial library, which now contains 3,228 reproductions, will be greatly increased through the work of the WPA staff. This library will fill a long-felt need and will make available a splendid collection of visual materials, so important in effective art teaching. Special exhibits will be arranged for individuals interested in art, for practice teachers, and for exhibitions in classrooms.

The bibliographical and biographical card index, which now contains 2,243 items will eventually be a complete catalog of all the material on art in book form found in the St. Paul Public Library, the Hill Library, the St. Paul School of Art Library, the Minneapolis Public Library, the Minneapolis Institute of Arts library, and the library of the University.

The index of lantern slides, which now contains 1,589 cards, will eventually include all the slides in the various art departments at the University.

The problem of space.—Two of our major problems heretofore have been limited space and a limited staff. Both of these have been partially solved. However, the fact remains that if the gallery increases its usefulness to the student body, to the faculty, and to the community as a whole, we must face the problem of a fine arts center or building, where adequate studios will be provided in which students may work more effectively, where classrooms for all the arts will be centralized, where exhibition galleries will have their share of space in the teaching program, and where suitable offices and physical layout will have been planned. Only in such a center can the art departments of the University of Minnesota be more unified than at present.

The first steps toward this suggested co-ordination have been taken. The departments in their association with the gallery are becoming a co-operating whole.

The *Fine Arts Bulletin* will make clear to the student the extent of art training to be found at the University. Other studies are to be made to show the need of co-ordinating the art departments on the campus, bringing the scattered departments into a closer relationship, and eliminating physical handicaps. Another study to be made will show the practices in existing galleries and outline the need for trained people for the management of small galleries.

Improving the art content in any environment is perhaps the most effective method of improving art tastes. During the past biennium the University Gallery has widened its program of making art a vital part of the lives of the university student, the community, and the state.

Respectfully submitted,

RUTH E. LAWRENCE, *Curator*

ADMINISTRATIVE AND SERVICE UNITS

UNIVERSITY LIBRARY

To the President of the University:

SIR: I submit herewith a summary report of the library activities of the University of Minnesota for the biennium ending June 30, 1938.

The general condition.—If the amount of work done is a fair measure of the success of an educational activity, the past two years have been the most successful in the history of the library. In the number of volumes added, the number of books issued, and in the quantitative use of the reading rooms the records exceed those of any previous years. Even with the necessary qualifications, these figures are encouraging. The resources of a university can roughly be estimated by the condition of its laboratories and its library, and the number and quality of its faculty and students are in the long run greatly affected by the adequacy of its assets in these two types of equipment.

Growth of the Library.—There was a total of 1,009,024 accessioned volumes in the various branches of the University Library on June 30, 1938. Of these, 153,466 were added to the records during the biennium 1936-38 (68,616 in 1936-37; 84,850 in 1937-38). Many of these came from material received in previous years but which had been stored awaiting final disposition. With the aid of WPA workers and NYA students much of this material has been sorted and checked for addition to the library or for future sale or exchange with other institutions.

Binding.—During the biennium, 35,416 volumes were bound in the library bindery (17,552 in 1936-37, and 17,864 in 1937-38). In addition 8,150 volumes have been prepared for binding by WPA workers and several hundred others repaired. This is far less than the number needing binding or repair.

Government documents.—The use of government documents has greatly increased. Fortunately, it has been possible to make a systematic campaign to fill gaps in our files and to obtain new material, as the result of a library project started in 1936. Thousands of valuable documents from all over the world, with Japan, Italy, and Germany as notable exceptions, have been sent us as gifts, exchanges, or, in a few cases, as purchases. The Scandinavian countries, all parts of the British Empire, and most of the countries of the Pan-American Union have been most generous. Although we have received few official documents from France as yet, we have received from the French government a generous gift of French non-official publications in various fields.

Gifts and exchanges.—In return for the official publications noted above, we have offered the co-operating governmental offices and other institutions copies of such university and other publications as we have had in duplicate stock. A surprisingly large number of volumes has been asked for from all parts of the world and sent by us through the international exchange system of the Smithsonian Institution. In this return to the old system of barter in place of cash, all parties to the transactions have been gainers. During the biennium, 378,621 pieces were received as gifts or exchanges (209,036 in 1936-37; and 169,585 in 1937-38). The exchanges in the former year were largely from Sweden, Norway, Finland, Denmark, and the larger British possessions with large numbers of official documents; in the latter year, from smaller nations or governmental units with fewer materials to send. During the year 1937-38, 59,836 books, pamphlets, and other material were received as gifts from nonofficial sources. While some of these were of little

importance, most were of definite value and will be added to the permanent collection. The increasing number of individual donors indicates a healthy increase of interest in the library.

On the other hand, the number of volumes added by purchase in 1936-37 exceeded the number purchased in 1937-38 by 1,382 volumes.

Catalog department.—The order and binding department has profited greatly from WPA and NYA student help in some of the elementary types of work necessary in many of its processes. The catalog department, on the other hand, requires a more specialized training and experience for most of its work. Aside from filing cards and some clerical processes, it has had to depend on its own trained staff. Its output has actually increased but it has been unable to keep pace with the greatly increased number of additions.

Circulation.—During the biennium, a total circulation of 1,292,060 volumes was recorded. A shift from use of books particularly reserved for class assignments to an increased use of the general reading rooms and departmental libraries is noted. A survey of the assignment and use of reserved books is in progress.

Reference.—A complete record of use, qualitative or quantitative, is impracticable. The records which are kept, though incomplete, are none the less indicative, and show 54 per cent increase in five years. More important than these figures is the changing character of the work. There is an apparent tendency away from strictly designated lists of assigned reading to more independent use of books of the user's own choice. Educationally, this is eminently desirable but administratively it requires more time and a more competent staff in the reference department. In addition to direct desk work with individual users, this department has also temporarily cataloged many theses, pamphlets, documents, and other material in great demand and has done much bibliographical work for faculty and advanced students, particularly in its inter-library loan work. NYA and WPA workers have been able to do a considerable part of the simpler processes needed for these temporary files, pending more complete permanent records for the public catalog but could not be depended upon for any research work worthy of the name.

Facilities for readers.—Increased registration and increased use of the library have begun to create new problems. There is still adequate space for book storage for several more years. The reading rooms on the contrary are already frequently crowded to such an extent that more limited access to students (a most unfortunate thing to contemplate), auxiliary reading and study rooms in other university buildings, or more departmental libraries seem necessary. It may be appropriate to repeat the suggestion made in earlier reports, that at least one study room with chairs and tables and possibly a few essential reference books be provided in every major building hereafter erected for student use.

The congested conditions are worse on the University Farm campus than elsewhere. Lack of library space there prevents either satisfactory service to students or faculty or efficient administration by the library staff. A new agricultural library building or much more extensive library quarters with the possibility of expansion is urgently needed.

The increased use of the departmental libraries is in part due to the presence of students from other departments who go to these libraries to escape the congestion elsewhere. This merely passes the problem along and creates new difficulties in the invaded territories. There is every reason to encourage more students to greater use of all library facilities; it is useless to encourage them to do so unless room for this greater use is provided.

Increased use has also shown the necessity of a larger service staff and additional equipment. The book stack is twelve levels or ninety feet high, and the

service desks are on the fifth and seventh levels. This means a possible five or seven flights of stairs for the messengers. Additional elevator service in the stack and better service in the public elevator are urgently needed.

Needs for the coming biennium.—The preceding sections are encouraging in showing a greater inclination on the part of the university public to use the library facilities provided and an indication that the University is fulfilling its function. However, the terrific use to which our books, often costly and irreplaceable, are subjected means that replacements as well as additions must be increasingly considered. The bindery is unable to keep up with either current additions or repairs. The flood of exchanges will soon settle down to a fairly steady but much smaller stream. Miscellaneous gifts are more likely to be of use in filling gaps than in providing a main supply of books. They can seldom be depended upon for current material. A larger book fund for increased use is logical and inevitable if standards of scholarship and research are to be maintained. Books must be made accessible as well as added to the general stock. More independent use means more individualized questions, which cannot be answered by general formulae but which require individual, and often extended, attention by the reference staff. This means more trained workers. The increase in class registrations involves more books which must be duplicates and which will inevitably be worn out or will become obsolete.

It is pleasant to acknowledge our indebtedness to WPA and NYA but disturbing to contemplate what their withdrawal would mean.

Another serious problem is injected by the growth of the Summer Session. Its students are serious. They work under pressure. They demand speedy, individual service. There is usually no advance indication either of their number or of their needs. For the first week or two of the session they literally storm the library until they learn better to adapt their needs to the limits of possible service.

Optimism has been defined as dissatisfaction with anything but the best, because the optimist feels that something better is always possible. In considering our library problems, dissatisfaction may well be in reality optimistic, because the progress made even under handicaps proves the practicability of further progress in the interest of the entire University.

Respectfully submitted,

FRANK K. WALTER, *University Librarian*

REGENTS' EXAMINING COMMITTEE

To the President of the University:

SIR: I submit the report of the Regents' Examining Committee for the period 1936-38.

At the close of the last biennium there was in progress a study of police training, undertaken at the request of the president of the University. This was completed in May, 1937. The committee has been continued since that date to be ready in case it should again be required to examine and certify qualified candidates for positions in the Minnesota State Bureau of Criminal Apprehension. No such examinations have been conducted during this biennium. The principal activity to be reported is therefore the police training project.

The Minnesota Crime Commission of 1934 recommended the establishment of police training at the University. The 1935 Legislature specifically authorized (without special appropriation) the University to conduct such instruction and authorized local units of government to pay the expenses of their law enforcement officers in attending such a police school. Numerous requests were made of the president of the University to follow these suggestions and establish systematic courses in police instruction. Preliminary investigation by the committee had indicated that this was an involved problem needing more careful study before any decision involving general policy could be adopted. The Board of Regents voted the necessary funds for such a study and a small research staff began work in February, 1936.

In general, the procedure of the committee consisted of (1) securing data as complete as possible, within the limits of time and expenditure available, as to police training efforts in the United States, (2) assembling data relative to law enforcement agencies in Minnesota, appraising the need of police training in Minnesota, and attempting to formulate a program of securing such training, and (3) envisaging the place of the University in such a program. Much information has been assembled about police education in the United States, and about the personnel and administrative practices of police agencies throughout Minnesota. This material has been compiled in voluminous preliminary reports, with such statistical tabulations as seemed pertinent. These reports are listed here:

The Police Training Problem, Regents' Examining Committee, July, 1935 (18 typewritten pages). General survey of the police training problem in Minnesota. This report has been deposited in the University Library and a second copy placed in the library of the Municipal Reference Bureau.

Police Training in the United States, Regents' Examining Committee, July, 1936 (77 typewritten pages). Detailed study and analysis of data on police training in the United States. This report, with its extensive tabulations, has been deposited in the University Library and a second copy placed in the library of the Municipal Reference Bureau.

Minnesota's Police Establishment, Regents' Examining Committee, October, 1936 (74 typewritten pages). Study and analysis of available data on police personnel and administrative practices in Minnesota. Copies of the report, with tabulations, have been deposited in the University Library and in the library of the Municipal Reference Bureau.

Bibliography of Police Training, Regents' Examining Committee, December, 1936 (490 titles). Books and periodicals dealing with police administration and the problems and history of police training. Copies in the University Library, Municipal Reference Bureau, and Public Administration Training Center.

Minnesota Laws Affecting Peace Officers, Regents' Examining Committee, December, 1936 (56 typewritten pages including index). A digest of statutory references dealing with the organization, authority, duties, personnel, and practices of police departments and other law enforcement agencies in Minnesota. Copies in the University Library and the Municipal Reference Bureau.

A Survey of Police Training, final report, Regents' Examining Committee, December, 1936. Issued by the committee in printed form in May, 1937 and distributed to interested police officers, libraries, educators, and committees. Over 400 copies distributed throughout the United States and Canada. Out of print since December, 1937.

The general conclusions resulting from this study of the problem of police training for Minnesota are expressed in the three principal recommendations made by the committee to the Board of Regents, as follows:

I. That the University be willing and ready to co-operate with associations of police officers, municipal and county officials, town constables, and others interested in police administration, in providing, through the General Extension Division, in-service police training of the short-course type.

II. That, if appropriation by the legislature be made therefor, the University employ as a regular member of its faculty a police scientist to organize and administer the University's program of police training.

III. That, if the establishment of a police science laboratory at the University of Minnesota seems advisable to the legislature, and an appropriation for the establishment and maintenance of such a laboratory is made, the University be ready and willing to assume the administration of such a laboratory.

Subsequent practice with regard to police training has followed the first recommendation. Short-course, in-service police training schools were conducted in 1937 and again in 1938 at the Center for Continuation Study under the joint auspices of the University and the Minnesota League of Municipalities. There appears to be a growing demand for such police schools and this phase of the training program seems to have become an established fact.

The legislature took no action on Recommendations II or III, and there are therefore no further developments to report at the present time.

Respectfully submitted,

GEORGE B. VOLD, *Chairman*,

Regents' Examining Committee

GEOLOGICAL SURVEY

To the President of the University:

SIR: I submit herewith a report of the work of the Minnesota Geological Survey for the period from July 1, 1936 to June 30, 1938.

The survey was allotted \$14,000 for the biennium. Of this amount practically one half was expended each year of the biennium continuing projects outlined in previous reports to the president.

Field work and investigations.—Dr. F. F. Grout was engaged in the sampling of titanium ores of Cook County and in the completion of field work for a report on anorthosites of Minnesota. The work and maps of the anorthosite bearing area have been very much advanced during the past year and a report will be issued during the next biennium. These great anorthosite bodies located along the north shore of Lake Superior are probably the greatest bodies of high grade anorthosite known. They are conveniently located as regards water transportation and are very high in aluminum. They have never been worked on a commercial scale, but probably will be worked for making ceramic products in the future. They contain about one per cent of iron oxide which makes them undesirable for certain purposes. Experimental work is now being done to ascertain whether this iron may be removed either magnetically or by some other process.

Dr. Grout issued a paper on the petrography of the gold prospects of Minnesota in *Economic Geology*, Vol. 32, pages 56-68, 1937. These deposits had been visited in connection with other survey work during a long period of years. He also issued a paper on the dark inclusions in granitic rocks: *Bulletin, Geological Society of America*, Vol. 48, pages 1521-72, 1937. This also is based largely on material collected by the survey.

Dr. C. R. Stauffer was employed by the State Geological Survey during the latter part of the summer of 1937, when he was engaged in stratigraphic studies in southeastern Minnesota and in the study of materials previously collected. This work was done in connection with a report on the area soon to be published.

During the field season of 1937, Dr. G. M. Schwartz completed sampling and testing some of the anorthosite deposits of the north shore of Lake Superior and a paper giving some of the essential facts regarding these deposits was published as "The Calcic Feldspar Deposits of Minnesota," *Bulletin of the American Ceramic Society*, Vol. 16, No. 12, pages 471-76, December, 1937.

Beginning July 1, 1937, Dr. Schwartz, assisted by A. E. Sandberg, began a comprehensive study of the Duluth area following the plan used in the recently published bulletin on the Minneapolis-St. Paul Metropolitan Area. The Duluth area is not only an important commercial center, but also a focal point of the geology of the Lake Superior region. A special study of certain intrusive igneous rocks of the region is being made in connection with this work and the Geological Society of America has made a grant of \$575 for analyses of rocks of the region to aid this work.

Dr. G. A. Thiel continued his study of the stratigraphy, structure, and underground water resources of southern Minnesota. The field season of 1936 was spent in the region south of the valley of the Minnesota River. During the early part of the 1937 field season, the oil and gas possibilities of the west central part of Minnesota were investigated. An abstract of the results of this work was published in the *Oil and Gas Journal*, Vol. 36, No. 14, 1937. The remainder of the

field season was spent in central Minnesota in the counties north of the valley of the Minnesota River. Owing to a thick deposit of residual clays over the granites of that region, the water supply problem is serious in certain communities. An abstract of a paper treating some of the problems of the water supply was published in the *Proceedings of the Minnesota Academy of Science*, Vol. 5, 1937.

Dr. J. W. Gruner was engaged in the preparation of a report on the geologic structure of the Vermilion Range, except for a few days when he made a magnetic survey of university mineral lands.

During the field season of 1937 Franklin B. Hanley was engaged chiefly in physiographic field studies. He collaborated with Dr. A. E. Jenks in the study of the geological environment of ancient human relics recently found in Minnesota, endeavoring as far as practicable to ascertain their age. He also collaborated with Dr. G. M. Schwartz in physiographic studies in the Duluth region. During part of the season he was engaged as field assistant to Dr. F. F. Grout in Lake County.

The State Planning Board has been calling on the staff of the Geological Survey during the past two years for aid in preparing a report on the mineral resources of Minnesota. The actual writing has been done by two graduates of the School of Mines and Metallurgy who have had experience in geology, Dr. L. C. Armstrong and Mr. H. R. McAdams, but the men on the survey contributed time to give the information, select the best references, and edit the manuscript.

Special services.—In addition to the special investigations, the State Geological Survey has answered numerous inquiries concerning the mineral resources of Minnesota. The requests cover a variety of subjects, and the materials to be examined include waters, clays, oils, peats, feldspars, fluxes, cement rocks, ores, sands, gravels, crushed stone, ornamental stone, building stone, marls, and road materials. In many cases samples are sent to the office by those interested and samples are supplied by the State Geological Survey to industrial organizations to be tested for specific purposes. Thus the state survey is attempting to aid in bringing to the state such mineral industries as may be operated within its borders.

This service is rendered without charge to all applying for it and the demand has steadily increased in recent years.

Respectfully submitted,

W. H. EMMONS, *Director*

NORTHWEST RESEARCH INSTITUTE

To the President of the University:

SIR: I submit a brief report of the work of the Northwest Research Institute during the biennium 1936-38.

The Northwest Research Institute was established several years ago to conduct researches related to the development of new industries based upon the natural resources of this region. The Northwest Research Foundation, a nonprofit organization, has recently been supplying the funds for the studies carried out by the institute. Two major problems have been investigated: (1) studies on the chemical production of alpha-cellulose from aspen (popple), (2) the production of hydrogen from North Dakota lignite.

Investigations concerning the production of alpha-cellulose from Minnesota aspen have been successful on a laboratory scale. Alpha-cellulose of 98 per cent purity has been produced by a new method, and a patent has been applied for, covering this process. Many of the claims involved in this patent have already been allowed and it appears certain that a useful patent will result from this study, making possible a new industrial development in the north.

The laboratory investigations on North Dakota lignite were completed some time ago and a furnace was built to test out the process on a semicommercial scale. This furnace has now been in operation long enough to indicate that high yields of hydrogen are possible from North Dakota lignite at relatively low costs. In fact, the costs appear to be below that of the hydrogen produced by any other process, and it seems likely, therefore, that this research may lead to several important industrial developments. It is possible, for example, that the hydrogen can be piped to the iron range and used there to reduce the low grade ore so that it may be magnetically concentrated. It is also possible that the hydrogen produced from the process can be used to fix nitrogen for fertilizer purposes and to make liquid fuels from the lignite itself by high pressure hydrogenation. The work on the production of hydrogen from the lignite is to be continued.

Respectfully submitted,

L. H. REYERSON, *Director*

MUSEUM OF NATURAL HISTORY

To the President of the University:

SIR: I have the honor of submitting the report of the condition and activities of the Museum of Natural History for the biennial period of July 1, 1936 to June 30, 1938.

Museum.—The museum has continued and increased its activities during the period. The daily attendance has shown a steady increase, including many out-of-town visitors, especially during the summer months when tourists are directed to the museum by various city agencies. The museum has been open during week days and on Sunday afternoons during January, February, and March. The Sunday attendance was 3,982 for 1937 and 4,979 for 1938, a total for the two years of 8,961, with an average of 344. The largest single day was 590.

New exhibits.—No large exhibits have been added because of lack of space. Ten portable school groups, making a total of 143, have been constructed as follows: bob-white quail, prairie marsh wren, albino, ruddy, and mallard ducks, Wilson's phalarope, Minnesota bats, banded rattlesnake, milk snake, blue racer, water snake, and chambered nautilus. Also four regular medium sized groups and one triple medium sized group have been added: wood duck, goshawk, Franklin's ground squirrel, and snowshoe rabbit with young; a large red fox group with adult female, young, flower accessories, and painted background.

Accessions to museum.—By donation we have added specimens, books, and the like from 68 persons and institutions. We have also added many specimens by purchase and field work.

Photography.—Four thousand feet of motion picture film have been taken, more than half in color, and 3,150 feet printed. Also many still photographs have been made and printed for the files. The museum now has 58 reels of motion pictures in color and black and white for lecture purposes and to loan.

Publications.—The revised second edition of the director's *Birds of Minnesota* was released by the University of Minnesota Press in October, 1936, and a *Logbook of Minnesota Bird Life 1917-1937*, in the spring of 1938. The bimonthly reports to *Bird-Lore* have been continued.

Lectures by staff members.—Three hundred and twenty-three lectures have been given during the biennium with a total attendance of 29,025, distributed as follows: school children at the museum 7,889, school children elsewhere 10,920, adults 6,550, Sunday afternoon lectures 3,666. Most of the lectures to school groups at the museum were given by Mr. George Rysgaard, Mr. Arnold Erickson, and Mr. Russell M. Berthel—university students employed by the museum as aids. Most of the outside lectures have been given by Mr. W. J. Breckenridge of the museum.

Co-operation.—In addition to lectures, the museum has co-operated with other institutions and with other departments of the University by the loan of material as follows: portable school groups 317, lantern slides 920, motion picture reels 61, mammal skins 168, bird skins 44. It has also distributed a large amount of printed matter to teachers, boy and girl scout leaders, and others.

Field work.—Mr. Breckenridge has made several trips into various parts of the state collecting specimens and making motion pictures, notably a trip to the

western part of the state in April, 1938, to secure film records of the vast migration of geese that annually passes northward across the state. Field work has also been done in the vicinity of the Twin Cities.

Museum donation fund.—Mr. James F. Bell's monthly contribution has continued throughout the two years, amounting to \$1,800. This fund is expended in the purchase of photographic equipment, photographic supplies, specimens for the study collections, books for the museum library, and incidentals, and for photographic developing and printing.

Respectfully submitted,

THOMAS S. ROBERTS, *Director*

FIELD SECRETARY AND GENERAL ALUMNI ASSOCIATION

To the President of the University:

SIR: I submit herewith a report on the work of the field secretary of the University and the secretary of the General Alumni Association for the years 1936-37 and 1937-38.

Alumni Board.—The directors were as follows:

Rewey Belle Inglis and Eva Blaisdell Wheeler, representing the College of Science, Literature, and the Arts; Fred A. Otto and Jay C. Vincent, the College of Engineering and Architecture; Parker Anderson, Spencer B. Cleland, and Frank W. Peck, the College of Agriculture, Forestry, and Home Economics; John K. Fesler and C. F. E. Peterson, the Law School; Ralph Creighton, Adam Smith, and Robert Wilder, the Medical School; Coates P. Bull, the School of Agriculture; Joseph Shellman and Lewis W. Thom, the School of Dentistry; Charles V. Netz, the College of Pharmacy; Walter H. Parker, the School of Mines and Metallurgy; Robert J. Mayo, the College of Education; Frank J. Tupa, the School of Business Administration; Dr. W. F. Braasch, first district, Dr. W. L. Burnap, ninth district; Dr. W. H. Aurand, Laura Robb Baxter, Dr. Moses Barron, George Earl, Carroll K. Michener, Arnold C. Oss, Ben W. Palmer, George A. Pond, William T. Ryan, Orren E. Safford, and George M. Shepard, directors-at-large; Charles G. Ireys, Charles F. Keyes, George R. Martin, Henry F. Nachtrieb, and Edgar F. Zelle, honorary members.

Officers for the year 1936-37 were Orren E. Safford, Law '10, president; Dr. Erling S. Platou, Medicine '20, vice-president; Thomas F. Wallace, Arts '93, Law '95, treasurer; Ernest B. Pierce, Arts '04, secretary. For 1937-38 Dr. Erling S. Platou was elected president and Ben W. Palmer, Arts '11, Law '13, vice-president; the treasurer and secretary for the preceding year were re-elected.

Alumni Weekly.—The *Minnesota Alumni Weekly* is listed among the first five alumni magazines of the country in point of circulation with a subscription list of approximately 9,000 during the past two years. It also leads in the number of pages of news of alumni, university news, and special articles and features, printed each year. Volume 36, covering the publishing year of 1936-37 had a total of 596 pages, and Volume 37 had 606 pages. Through its pages the president and other members of the administration and the faculty may speak directly to a large body of interested graduates. Obviously the publication serves the General Alumni Association as a carrier of announcements concerning the alumni program and special events. In the annual judging of alumni magazines conducted by the American Alumni Council, the *Minnesota Alumni Weekly* consistently rates near the top in all departments. During the past two years the staff of the magazine has edited and published directories of the graduates of the Medical School and of the School of Dentistry.

Alumni Advisory Committee.—This group, composed of representative alumni from points in the state outside the Twin Cities, meets with the Board of Directors of the General Alumni Association, the president of the University, and the Board of Regents at Homecoming time in the fall and on Alumni Day in June to discuss the intimate affairs of the institution. This organization is unique. The president reports to this group the program and progress as well as the problems of the University. The salutary result is that these alumni go back to their constituencies feeling that they are more familiar with the important facts concerning the institution and are, therefore, in a position to be of assistance to the administration when called upon.

Alumni gatherings.—There has been a slight decrease in the number of local meetings. The records show the following functions held under alumni auspices during the biennium:

1936-37.—September 18, Los Angeles; September 22, San Francisco; September 24, Portland; September 25, Seattle; October 6, Alumni Board meeting; October 30, Chicago—joint meeting with Northwestern (luncheon), Minnesota stag, same evening; November 6, Homecoming;

Alumni Advisory Committee luncheon, general alumni dinner, medical clinics, and luncheon; November 13, "M" men—annual stag; November 21, St. Louis; November 23, Chicago-Michigan jug luncheon; December 29, New York City; January 15, Eveleth; January 19, Seattle; January 20, Red Wing; January 22, Willmar; January 29, Milwaukee; February 1, Winona; February, Honolulu; March 9, New York City; March 15, Albert Lea; March 18, Little Falls; March 29, Olivia; April 1, Worthington; April 13, Ely; April 18-21, American Alumni Council, West Point, N. Y.; April 19, Norwich, N. Y.; April 21, New York City; April 22, Washington, D.C.; May 17, Alexandria; May 18, Crookston; June 13, Class of 1897; June 14, Alumni Day: Advisory Committee luncheon, Alumnae Club luncheon, 1912 luncheon, 1902, 1892, and 1887 meetings, general alumni dinner.

1937-38.—September 11, Detroit; September 26, Rapid City; September 28, Billings; October 1, Omaha; October 12, Seattle; October 13, Chicago; October 14, Los Angeles; October 15, Detroit; October 26, Denver; November 5, Milwaukee; November 12 (Homecoming): Advisory Committee luncheon, dental alumni (clinics and luncheon), medical alumni (clinics and luncheon), Chicago, luncheon with Northwestern alumni, general alumni dinner; November 13, Cleveland, Class of 1927 (electrical engineering), alumni of the Department of Journalism; November 23, Board of Directors of the General Alumni Association; November 29, Chicago, luncheon with Wisconsin alumni; December 1, Neenah; December 3, Chicago; December 29, New York City; January 1, Schenectady; January 11, Seattle; February 3, Rochester; February 5, Seattle; February 8, Seattle; February 11, Milwaukee; February 16, Red Wing; February 17, Eveleth; February 22, Crookston; March 3, Fergus Falls; March 21, Albert Lea; March 22, Olivia; March, Miami; March 24, Los Angeles; March 25, Spokane; March 28, Faribault, San Francisco; March 29, Spokane; March 30, Seattle, Columbus; March 30-April 2, American Alumni Council, Columbus, Ohio; May 19, Los Angeles; May 21, Law alumni and faculty (fiftieth anniversary of the Law School); May 19, Class of 1902; June 12, Class reunions: 1888, 1893, 1898, 1908, 1913; June 13, Class reunions: 1896 and 1933; Advisory Committee luncheon; Alumni Club luncheon; General Alumni dinner.

Alumni Day.—On June 14, 1937, the Silver Anniversary Class (1912) held a luncheon in the Minnesota Union. The Class of 1897 arranged a class dinner the night before at the Curtis Hotel. The classes of 1887 and 1902 also had special meetings. Other classes having reunions were '92, '07, '17, '22, '27, and '32. All these groups then came in a body to the general meeting. The Alumnae Club entertained at luncheon the class of 1887 and preceding classes.

On June 13, 1938, the Class of 1913 reached its silver anniversary and approximately two hundred were at the class dinner on Sunday, June 12. Dean Guy S. Ford, who came to the University the year this class was graduated, and Mrs. Ford were made honorary members of the group and were guests at the dinner. The Class of 1908 held its thirtieth reunion on the same day. The Class of 1898 at the same time held its reunion dinner. The '93's were entertained at the lake home of Mrs. J. C. Sweet. The Class of 1888, celebrating its fiftieth anniversary, held a reunion at the lake home of Mrs. Walter Eggleston. The Alumnae Club entertained at luncheon on June 13 the class of 1888 and all earlier classes, the oldest alumnae present being Minerva Smith Dunn of the Class of 1875 and Mrs. Wilkin of 1877.

On the evening of June 13 all of these groups joined with the general alumni body at the annual dinner in the Union. Members of the Board of Regents were present and a brief address was made by Guy Stanton Ford, acting president of the University.

Respectfully submitted,

E. B. PIERCE,

*Field Secretary of the University and
Secretary, General Alumni Association*

THE UNIVERSITY OF MINNESOTA PRESS

To the President of the University:

SIR: The University of Minnesota Press celebrated the tenth anniversary of its publishing activities in the spring of 1937 with the publication of a brief history of the press, entitled *Ten Years of Publishing by the University of Minnesota Press*, in which its accomplishments were summarized thus:

The quantity and range of University publishing has been vastly increased; its distribution has been multiplied many times over; editorial supervision has increased readability and accuracy and improved markedly the attractiveness and usability of every type of book or pamphlet issued. Much waste has been avoided through the centralization of publication services and the employment of professionally trained assistants. The prestige of the University and of individual scholars has been enhanced. University of Minnesota Press books have carried the work of the University to the most distant parts of the world and reached many thousands who know it in no other way.

Wider distribution of Minnesota books has been the result, in large part, of greatly increased sales and promotional effort. The bookstores, schools, and libraries of Minnesota and surrounding territory have been canvassed by our sales manager, and bookstores and libraries of the rest of the country have been visited by the travelers of University Books, Incorporated, of New York, acting as our agents. In 1937 we issued a complete catalog of books in print and inaugurated a seasonal news sheet called *Minnesota Books and Authors*.

Another innovation was a series of autographing teas given by the Dayton Company in honor of Clara Searle Painter and Anne Brezler, authors of *Minnesota Grows Up*, John T. Flanagan, editor of Snelling's *Tales of the Northwest*, S. Chatwood Burton, author and illustrator of *Spain Poised: An Etcher's Record*, and Daisy T. Abbott, author of *The Northern Garden Week by Week*. The Committee on the Press also gave an anniversary tea in honor of its authors in the spring of 1937 with librarians, reviewers, editors, and other groups professionally interested in books as guests.

News releases, circulars, exhibits, and space advertising have also been utilized to reach the book-buying public. Although a larger sales volume does not always produce larger net returns to the press, it has made possible larger editions of our more popular books and greater returns to our authors.

We have continued to maintain a high standard of production. In 1936 the American Institute of Graphic Arts included Snelling's *Tales of the Northwest* among the Fifty Books of the Year and in 1937 selected *Norwegian Emigrant Songs and Ballads*. Other titles have received special mention for typographical excellence in such trade journals as the *Publishers' Weekly* and *Bookbinding and Book Production*, and elsewhere.

In the fall of 1937 the press co-operated with the University Art Gallery in arranging an exhibit of the book arts, including fine examples of typography, illustration, and binding. Numerous talks have been given both to audiences and over the radio on various aspects of publishing and book production. We believe that there is a growing appreciation of the graphic arts among our public.

The allotment of additional space in Wesbrook Hall for editorial offices has improved working conditions and morale.

A list of the publications issued during the biennium follows in chronological order:

The Geology of the Minneapolis-St. Paul Metropolitan Area. By George M. Schwartz. Minnesota Geological Survey, Bulletin 27. 279 pages. 7 maps. 8vo. Cloth.

- Minnesota Speed of Reading Test*, Forms A and B. By Alvin C. Eurich. 4 pages. 4to. Paper. Manual of Directions, 11 pages. Mimeograph.
- Science and Civilization: An Outline and Bibliography of an Orientation Course*. Seventh edition. 32 pages. 8vo. Paper.
- The Book of Apollonius*. Translated by Raymond L. Grismer and Elizabeth Atkins. 136 pages. 8vo. Cloth.
- Tales of the Northwest*. By William Joseph Snelling. Edited by John T. Flanagan. 288 pages. 8vo. Cloth.
- A Syllabus for a Course in the History of European Civilization*. By Alice Felt Tyler. 112 pages. 8vo. Paper.
- The Birds of Minnesota*. Second (revised) edition. By Thomas S. Roberts. 1701 pages. 92 color plates. 612 black and white illustrations. 2 volumes. 4to. Cloth.
- Minnesota Grows Up*. By Clara Searle Painter and Anne Brezler. 152 pages. 60 illustrations and pictorial map in colors. 8vo. Cloth.
- Personality in the Depression: A Study in the Measurement of Attitudes*. By Edward A. Rundquist and Raymond F. Sletto. Child Welfare Monograph No. 12. 420 pages. 12 charts. 8vo. Cloth.
- Men, Women, and Jobs: A Study in Human Engineering*. By Donald G. Paterson and John G. Darley. 150 pages. 10 charts. 5 halftones. 8vo. Cloth.
- The Waverley Novels and Their Critics*. By James T. Hillhouse. 371 pages. 8vo. Cloth.
- A Monograph on the Genus Heuchera*. By Carl Otto Rosendahl, Frederic K. Butters, and Olga Lakela. Minnesota Studies in Plant Science, Volume II. 186 pages. 3 line drawings. 2 halftones. 8vo. Paper.
- The Gnathodynamometer of the School of Dentistry, University of Minnesota*. By P. J. Brekhus and Wallace D. Armstrong. 20 pages. 8vo. Paper.
- Norwegian Emigrant Songs and Ballads*. Translated and edited by Theodore C. Blegen and Martin B. Ruud. 357 pages. 8vo. Cloth.
- Minnesota House Design and House Furnishing Test*, Forms A and B. Illustrations to accompany each form. By Clara M. Brown, Nell White, and Muriel Furgason Puhr. 17 pages, including Manual. Paper.
- Minnesota: Its History and Its People, A Study Outline with Topics and References*. By Theodore C. Blegen. 247 pages. 8vo. Paper.
- Pleistocene Man in Minnesota: A Fossil Homo Sapiens*. By Albert E. Jenks. 209 pages. 90 photographs and line drawings. 4to. Cloth.
- Shelley's Religion*. By Ellsworth Barnard. 332 pages. 8vo. Cloth.
- Power and Elusiveness in Shelley*. By Oscar W. Firkins. 191 pages. 8vo. Cloth.
- Inflation, Inevitable or Avoidable?* By Arthur W. Marget. Day and Hour Series, No. 15. 32 pages. Paper.
- A Manual of Operating Room Procedures*. By Almira W. Hoppe and Lucile Halverson. 251 pages. 8vo. Spiral binding. Paper.
- A Textbook of Nursing Technique*. By Marion L. Vannier and Barbara Thompson. Third (revised) edition. 288 pages. 8vo. Cloth.
- Pacific Politics*. By Joseph Ralston Hayden. Day and Hour Series, No. 16. 32 pages. 8vo. Paper.
- Child Care and Training*. By Marion L. Faegre and John E. Anderson. Fourth (revised) edition. 334 pages. 22 halftones. 12mo. Cloth.
- A Guide to the Spring Flowers of Minnesota*. By Carl Otto Rosendahl and Frederic K. Butters. Sixth edition (reissue). 109 pages. 29 line drawings. 8vo. Paper.
- 295 American Birds*. By Thomas S. Roberts. (Reissue in new cover.) 106 pages. 92 color plates in spiral binding. Paper.
- Following the Prairie Frontier*. By Seth K. Humphrey. (Popular-priced reissue.) 273 pages. Half-tone frontispiece. 12mo. Cloth.
- Industrial Relations in Urban Transportation*. By Emerson P. Schmidt. 276 pages. 3 figures. 8vo. Cloth.
- Thermal Conductivity of Building Materials*. By Frank B. Rowley and Axel B. Algren. Minnesota Engineering Experiment Station Bulletin No. 12. 143 pages. 109 illustrations. 8vo. Paper and cloth.
- Peace or War? A Conference*. Edited by Harold S. Quigley. Day and Hour Series, Nos. 17 and 18. 205 pages. 8vo. Paper.
- The Effective General College Curriculum as Revealed by Examinations*. A Report of the Committee on Educational Research of the University of Minnesota. College Problems Series. 444 pages. 29 charts and line drawings. 8vo. Cloth.
- The Use of Books and Libraries*. By Harold G. Russell, Thomas P. Fleming, and Blanche Moen. Fourth edition, revised. 83 pages. 8vo. Paper.

- Mortality Trends in the State of Minnesota.* By Calvin Schmidt. 334 pages. Planographed. 95 charts. 8vo. Cloth.
- The Gordon-Douglass Fraction Test for Beginning Students of Nursing.* By Phoebe Gordon and Harl R. Douglass. 2 pages. Manual of Instructions, 4 pages. Paper.
- Reciprocal Trade Agreements.* By Arthur R. Upgren. Day and Hour Series, No. 19. 32 pages. 8vo. Paper.
- The Development of Children's Concepts of Causal Relations.* By Jean Marquis Deusche. Child Welfare Monograph No. 13. 114 pages. 16 line drawings. 8vo. Cloth.
- The Development of Linguistic Skill in Twins, Singletons with Siblings, and Only Children from Age Five to Ten Years.* By Edith A. Davis. Child Welfare Monograph No. 14. 176 pages. 13 line drawings. 8vo. Cloth.
- Can We Control the Boom?* By Bertil Ohlin, Fritz Machlup, Alvin H. Hansen, Arthur W. Marget, and Oliver S. Powell. Day and Hour Series, No. 20. 32 pages. 8vo. Paper.
- The Measurement of Outcomes of Physical Education for College Women.* By Elizabeth Graybeal. 88 pages. 8vo. Paper.
- Spain Poised: An Etcher's Record.* By S. Chatwood Burton. 52 pages. 23 full-page etchings. 26 pen and ink sketches. 4to. Cloth.
- Bishop Whipple's Southern Diary, 1843-1844.* Edited by Lester Burrell Shippee. 235 pages. 8 halftones. Cloth.
- Alfred Ovre, Dentistry's Militant Educator.* By Netta W. Wilson. 352 pages. 8 halftones. 8vo. Cloth.
- The Administration of Justice under the Quebec Act.* By Hilda Marian Neatby. 388 pages. 8vo. Cloth.
- Physicians of the Mayo Clinic and the Mayo Foundation.* 1584 pages. 1400 halftones. Large 8vo. Cloth.
- The Social Participation Scale, 1937.* By F. Stuart Chapin. 2 pages. Paper.
- Victorian Critics of Democracy.* By Benjamin E. Lippincott. 284 pages. 8vo. Cloth.
- The Unicameral Legislature.* By Alvin W. Johnson. 208 pages. Halftone frontispiece. 8vo. Cloth.
- The Logbook of Minnesota Bird Life, 1917-1937.* By Thomas H. Roberts. Drypoint frontispiece and 22 line drawings by W. J. Breckenridge. 364 pages. 8vo. Cloth.
- The Northern Garden Week by Week.* By Daisy T. Abbott. 100 pages. 10 line drawings. 8vo. Paper.
- On the Economic Theory of Socialism.* Papers by Oskar Lange and Fred M. Taylor. Government Control of the Economic Order Series, Volume 2. Edited by Benjamin E. Lippincott. 150 pages. 8vo. Cloth.
- On and Off the Campus.* By Guy Stanton Ford. Biographical introduction by George E. Vincent. 521 pages. Portrait in color. 8vo. Cloth.
- Adult Abilities: A Study of University Extension Students.* By Herbert Sorenson. 200 pages. 19 charts. 12mo. Cloth.
- Personal Qualities and Abilities.* By Clara M. Brown. 1 page. Manual of Directions, 4 pages. Paper.

No trends are apparent in this list except that there is less concentration on economics than during the preceding years and more variety in subject-matter and in treatment. From the editorial point of view the biggest and most exacting book is *Physicians of the Mayo Clinic and the Mayo Foundation* with its 1,400 biographical sketches and extensive bibliographies. The most beautiful and perhaps for that reason the most enduring is *Spain Poised: An Etcher's Record*; the most unconventional is *Minnesota Groves Up* with its animated maps and cartoons; and the best seller, as always, is *Child Care and Training*.

Respectfully submitted,

MARGARET HARDING, *Managing Editor*

MINNESOTA UNION

To the President of the University:

SIR: I submit the report of the Minnesota Union for the years 1936-37 and 1937-38, as prepared by G. Ray Higgins, manager.

Board members.—Students (1936-37)—Donald Braman, Henry Carlson, James Harms, William Kaiser, Burton Larson, Gerald Mitchell, Lester Seebach, Allan Stone, Earl Svendsen, Paul Vaananen, Maurice Wahlstrand, George Wilkens. (1937-38)—Orval Alstad, Sherman Finger, Mark Forgette, Thomas Hanscome, William S. Harrison, Walter Middents, Reinhard Neils, Howard Nordquist, Winfield Ritter, Philip Schroeder, Victor Spadaccini, Ralph Weible. Faculty (1936-37 and 1937-38)—E. B. Pierce, J. C. Sanderson. Alumni (1936-37 and 1937-38)—S. S. Gillam. Officers (1936-37)—E. B. Pierce, president; James Harms, vice-president; J. C. Sanderson, treasurer; George Wilkens, secretary. (1937-38)—E. B. Pierce, president; Winfield Ritter, vice-president; J. C. Sanderson, treasurer; Walter Middents, secretary.

General survey.—The year 1938 marks the end of a quarter of a century of service to the students of the University of Minnesota by the Minnesota Union organization. Each of these years has seen a constant and steady improvement and expansion of the Union's facilities and social program. In the history of the Union no previous biennium has proved more important or eventful than the one now closing, for in that period, there has developed a strong movement for a new, adequate co-educational Union building. The past two years have also witnessed great advancements in the social, cultural, and recreational programs of the Minnesota Union.

New building program.—The new Union campaign began in July, 1936, when President L. D. Coffman named a committee of fifteen to investigate the Union facilities of several neighboring universities. After visiting the Unions at Iowa State College, State University of Iowa, Purdue University, Indiana University, University of Michigan, and University of Wisconsin, the committee reported that Minnesota had lagged far behind these institutions in providing a social, cultural, and recreational center for her students. By November of that year 110 student organizations had petitioned the Regents to provide adequate facilities and pledged themselves to an increase in fees to maintain the building. On December 17, 1936, the Regents formally approved the plans for the building, selected a site, and authorized architects to proceed with working plans for the structure. The plans were completed in March, 1937, and the estimated cost was set at \$1,900,000. On March 16 the application for a PWA grant of 45 per cent of the cost was sent to Washington. In August it was learned that all grants of this type had been assigned, and the project appeared to be postponed until such time as the funds could be secured without federal assistance. In March, 1938, there were indications that more federal money was to be available for PWA projects. Since that time efforts to secure funds for the Union building have been renewed.

Building traffic.—During 1937-38, a survey of student traffic was made for the first time in the history of the Union with an accurate count for one entire week. The results showed a daily traffic of over 5,000 students and faculty. This number together with the 1,500 per day of the Summer Session aggregates nearly 1,000,000 students and faculty entering the Union building during the course of one year.

The trend toward the co-educational use of the present Union building is clear.

Four years ago the presence of women in the building was relatively rare and mainly upon party occasions. The traffic survey showed that on an average there are 1,000 women using the building each day. During the biennium 1932-34, 64,490 students attended organizational meetings in the Union while in the last two years this number was increased to 219,985. This increase would have been larger had it not been necessary to deny many groups accommodations due to lack of adequate quarters.

Social, recreational, and cultural program.—The Union Board of Governors through its activities committees endeavors to provide a varied and comprehensive program of social, recreational, and cultural events which will appeal to all the students of the University. In 1937-38 the Union sponsored a total of 120 functions. Since none are scheduled during final week or the week immediately preceding it, this provides an average of four a week during the school term. Of these events there were 75 open to students without cost. The remaining 45 ranged in cost from 5 cents to \$1.25. In all, 37,660 students attended these events. An indication of the expansion of the Union program is shown by the fact that five years ago only 3,890 students attended all of the Union-sponsored programs, of which there were but twenty.

Union music hours.—A cultural feature of special interest was inaugurated in 1937-38. In co-operation with the staff of the General College regular weekly "listening hours" were begun, and attracted large student audiences. Phonograph records were played, and programs were planned that would appeal to the interests of students.

Building changes.—The biennium has been marked by several policy changes which materially increased the value of the building to the students. Most effective of the changes has been the supervision of the main lounge rooms. In addition, a free checking service introduced during 1937-38 served to alleviate the unsightly appearance and inconvenience of hats and coats lying about the building. The offices of the All-University Council, Lodgers' League, and Masquers were added to the list of permanent organizations housed in the Union, bringing the total to five.

Agricultural Union.—The enlarged facilities of the agricultural branch of the Union have been utilized far beyond anticipation. Shortly after the new quarters were put into operation, it again became apparent that more space was needed. The prospect of securing this additional space appeared remote until plans for a new Forestry building were definitely approved. With the vacating of a portion of the Old Dairy Hall by the Lake States offices, it is hoped that additional accommodation can be secured for Union purposes.

Association of College Unions.—In 1920 the twelve Union organizations then in existence formed an association for their mutual welfare. Union organizations operating buildings on university or college campuses are eligible for full membership. At the present time, there are fifty-six organizations affiliated with the association. Each year the association holds a convention for the purpose of sharing experiences and stimulating a constructive and progressive Union program. This year it selected the University of Minnesota as its meeting place for the 1938 convention to be held December 1 to 3. At the same time G. R. Higgins, manager of the Minnesota Union, was elected president of the association.

Respectfully submitted,

E. B. PIERCE, *President,*

Minnesota Union Board of Governors

DEPARTMENT OF MILITARY SCIENCE AND TACTICS

To the President of the University:

SIR: The following report of the Department of Military Science and Tactics is submitted for the biennium 1936-38.

Purpose.—The general object of the courses of instruction of the Reserve Officers' Training Corps is primarily to qualify students for positions of leadership in time of national emergency, and secondarily to provide the nation with an electorate informed of the purpose and necessity for a sane policy of national defense.

Military training was continued upon an elective basis during the biennium which brought to a close the first four years of this type of training and therefore furnished a better gauge for comparison with the traditional required training which preceded it during the first sixty-five years of the University. These results will be discussed more fully in the paragraph under "Enrolment." Strictly speaking, only the past three years should be considered in these comparisons as the school year 1934-35 was a transition from required to elective training, during which time those students who had entered upon advanced course contracts in the discontinued infantry unit were allowed to continue the work necessary to receive their commissions in that branch of the service.

Units.—The Coast Artillery and Signal Corps units were augmented by the addition of a Medical unit, restored by action of the Board of Regents in the fall of 1936. Since enrolment in the Signal Corps is restricted to students in the Department of Electrical Engineering and enrolment in the Medical unit to students in the Medical School, the Coast Artillery is the only unit open to students in *all* colleges of the University. Even this has its restrictions, as higher algebra and plane trigonometry are prerequisites to the artillery courses. Students who do not possess these prerequisites and who are unable to take them during their freshman year, are automatically excluded. However, in order to meet the problem of the student, this department allows otherwise eligible students to enroll in the Coast Artillery unit during their freshman year, with the proviso that they will satisfactorily complete the necessary higher mathematics in the University to remove this deficiency before being entitled to continue in the sophomore year (Second Year Basic).

Response.—The two most popular questions are: (1) Does not the present elective system attract the best men on the campus? (2) Are not those who enroll seriously interested in military training and do so with a view of continuing the four years of work which lead to a commission?

To the first question, there is no answer. The question of the best is purely relative and there are too many splendid young men on the campus who never enroll, never face the same tests, and cannot be observed comparably with those who pursue the courses. It is a fact that each year many outstanding students of the University call at the department to ask about taking the courses, stating that had they known their true value when they entered as freshmen, they would have enrolled at that time. Unfortunately, the majority of these students are in their junior year and do not have enough time left in college to pursue the courses to graduation and commission. To complete the Advanced Course, a student must have two years remaining in college at the time of signing the contract. As a

prerequisite to the Advanced Course, he must have completed two years of the Basic Course which means that he must have four full years of military training in this department or an R.O.T.C. unit at another institution, before securing a commission in the Organized Reserves.

In reply to the second question, it is believed that the majority of those who do enroll are motivated by serious considerations and do so in order to obtain a commission. Here again, many are called, but few are chosen. The quotas for the Advanced Course are limited by congressional appropriations, and it has always been the experience of this department, even under the required system, to have more applicants for the Advanced Course than could be accommodated. At this writing there are 72 applicants for 11 vacancies to be filled in the Coast Artillery units this fall. Selections will be made upon a basis of past records and personal merit. This competition accounts for the large number of freshmen who drop out of the courses at the end of the first year because of low attainments.

Curriculum changes.—The new War Department Directive for R.O.T.C. Training (effective in the fall quarter, 1937), emphasizes the training for anti-aircraft artillery, for all Coast Artillery units in the Seventh Corps Area, and prescribes that 75 per cent of the time devoted to artillery instruction shall be allotted to anti-aircraft subjects and only 25 per cent of the time to the technique of other types of artillery. Anti-aircraft gunnery is a highly technical engineering subject which requires time and application to master. The time formerly devoted to close-order drill is now applied to classroom study of the theory and technique of modern weapons and matériel. The familiar term "drill" formerly applied to courses in Military Science is no longer applicable, as approximately 75 per cent of the advanced course student's time is devoted to classroom instruction. That this is sound is amply demonstrated by the splendid results obtained by our students during the six weeks' encampment at Fort Sheridan, Illinois, and at Camp Custer, Michigan.

Military operations in Ethiopia, Spain, and China have offered an exceptional opportunity to observe the results of tests of modern equipment, especially in aerial attack and defense. Modern developments in this phase of warfare during the past two years have been enormous and resulted in many changes in our own technique. In order to keep our students abreast of these developments, the standard texts have been supplemented by current material made available from many sources. In addition to keeping up to date, this has had the effect of vitalizing the courses and promoting the interest of students in international affairs which, in turn, trains their judgment in the proper evaluation of our own problems of national defense against the background of an armed and confused world.

Enrolment.—Enrolment during the biennium varied between 8.3 per cent and 4.9 per cent of the male enrolment of the University, with a slight decrease during the past year. At the end of the spring quarter, 1938, there were more than eight thousand male students enrolled in the University who were not taking military training. The result of this condition, if continued, will be that in the event of a national emergency, the graduates of the University trained for responsible leadership in civil life will be submerged in the draft and the deficiency of military leaders will have to be met by trained leaders from other states which have a surplus. If the youth of Minnesota fail to accept the opportunities offered them now in time of peace, they must be willing to accept the penalties which will be thrust upon them in time of national stress.

Data on enrolment during the past four years, taken at the beginning of each quarter, are shown in Table I.

TABLE I. ENROLMENT DATA, R.O.T.C., 1930-38

| | BASIC COURSE* | | ADVANCED COURSE† | |
|---------------|---------------|----------|------------------|----------|
| | 1st Year | 2nd Year | 1st Year | 2nd Year |
| 1930-31 | 1,541 | 1,079 | 182 | 154 |
| 1931-32 | 1,290 | 983 | 177 | 163 |
| 1932-33 | 1,242 | 824 | 182 | 152 |
| 1933-34 | 1,245 | 941 | 157 | 158 |
| Average | 1,329 | 957 | 175 | 157 |
| 1934-35 | 155 | 104 | 104 | 134 |
| 1935-36 | 300 | 178 | 89 | 72 |
| 1936-37 | 290 | 206 | 77 | 75 |
| 1937-38 | 256 | 173 | 101 | 66 |
| Average | 250 | 165 | 93 | 87 |

* From 1930-31 through 1933-34 the Basic Course was required; from 1934-35 to date it has been elective.

† The Advanced Courses have had limited registrations. From 1930-31 through 1933-34 advanced work was given in these units: Infantry, C.A.C., S.C., M.C., D.C.; in 1934-35 in Infantry, C.A.C., S.C.; in 1935-36, in C.A.C., S.C.; and since then in C.A.C., S.C., M.C.

The enrolment loss due to change from required to elective training was, First Year Basic, 81 per cent; Second Year Basic, 83 per cent.

As a vocation.—Whereas courses in Military Science and Tactics are classed as minor electives, to many students, military training is an end in itself. During the biennium, 27 graduates accepted one year's active duty with the Regular Army under the provisions of the Thomason Act. Three who met the requirements for permanent commission have entered the Regular Army as a career; 2 in the Corps of Engineers, and one in the Coast Artillery. In addition, 2 have accepted permanent commissions in the U. S. Marine Corps, 3 are on a probationary flying status with the U. S. Navy, and 7 are undergoing flying training at the Air Corps Training Center, Randolph Field, Texas. Also 4 undergraduates accepted cadetships at the U. S. Military Academy, West Point, New York. Among these, whose active training status is more temporary, should be mentioned the large group of graduates who have accepted six-month tours of duty as officers in the Civilian Conservation Corps. In brief, this department has been an important auxiliary in the placement of graduates in gainful occupations upon graduation, including the industrial field. A number of industrial organizations give priority to applicants with R.O.T.C. training and this department averages about one hundred reports per annum regarding former graduate applicants.

Table II shows the number of graduates during the first four years of the elective system and the branch of service in which commissioned. Whereas the Infantry unit was discontinued in 1934, each year we have had transfer students from other institutions where Infantry units are maintained, who are authorized to complete their last year's training in the Coast Artillery unit, with the proviso that they be commissioned in the Infantry Reserves.

Facilities.—Like Washington's plan for an army, we have not attempted to have a large corps, but a good one. Present facilities barely suffice to accommodate this unit adequately. When a representative of the U. S. Navy visited the University to inspect facilities available for the establishment of a Naval R.O.T.C., he

approved only two divisions of this department as meeting the Navy standard—the rifle range and the storeroom; all other existing facilities he considered below the minimum standards desirable for the establishment of the Naval R.O.T.C. The views of this naval officer have been concurred in by the various heads of this department for some time. Three years ago, the recommendation for a modern armory received the consideration of the administration and was listed as P.W.A. Project No. 20, University of Minnesota. In the present era of free money which encourages "spending-lending" policies, the time seems propitious to reconsider this project. Certainly, if the University desires to encourage an increase in the enrolment of present units, and especially if it cherishes the hope of ever restoring the withdrawn Infantry unit, a modern armory would be a fitting preface to such a program. The old armory facilities will accommodate the regiment at its present enrolment levels, provided no more space is withdrawn from the department for allocation to other departments of the University. It is estimated that the present facilities will barely accommodate a cadet regiment of not exceeding one thousand cadets.

TABLE II. R.O.T.C. GRADUATES COMMISSIONED

| SCHOOL YEAR | ORGANIZED RESERVE CORPS* | | | | | | | | REGULAR ARMY (PERMANENT) | | |
|---------------|--------------------------|--------------|---------------|--------------|----------------|----------|--------------------------|--------------------|-----------------------------|-----------------------|--------------------|
| | Coast Artillery Corps | Signal Corps | Medical Corps | Dental Corps | Ordnance Dept. | Infantry | Chemical Warfare Service | U. S. Marine Corps | Active Duty (R.A.) One Year | Coast Artillery Corps | Corps of Engineers |
| 1934-35 | 57 | 10 | 7 | 3 | ..... | 58 | ..... | ..... | ..... | ..... | ..... |
| 1935-36 | 53 | 8 | 34 | 3 | ..... | 1 | ..... | ..... | ..... | ..... | ..... |
| 1936-37 | 56 | 10 | ..... | ..... | 7 | 1 | 1 | 1 | 13 | 1 | 1 |
| 1937-38 | 45 | 11 | 9 | 6 | 4 | 1 | 1 | 1 | 14 | ..... | 1 |
| Total | 211 | 39 | 50 | 12 | 11 | 61 | 2 | 2 | 27 | 1 | 2 |

* Total commissioned in the Officers' Reserve Corps in four years, 386; in last two years, 152.

Library.—Until four years ago the department had no library. The policy had been for each instructor to provide his own reference texts which he took with him when he was relieved. Four years ago, I began the creation of a library by private purchases and personal donations from my private collection. To these were added a few volumes purchased through the University Library and a number of standard government texts obtained through the generosity of the Organized Reserve Headquarters in Minneapolis. However, the largest single donation was made this year when Cadet Donald P. Frankel contributed a five-section bookcase and 180 volumes of military and allied titles from the library of his father, the late Major Hiram D. Frankel. Since that time members of this and other faculties have made notable contributions such that the department now possesses a valuable ready-reference library for the convenience of its faculty and student body.

Property.—The value of government property now furnished by the United States to the University of Minnesota for instruction of the R.O.T.C. amounts to \$61,066. Prior to the withdrawal of the Infantry unit, it was \$210,000. Due to improved storeroom facilities provided by the University, the condition of stor-

age and property is excellent and the University has sustained no property losses during the biennium.

Faculty.—The assignment of a medical officer with an enlisted assistant to instruct the Medical R.O.T.C. now brings the faculty up to five officers and five noncommissioned officers.

The Coast Artillery unit is still short the services of one officer which the War Department is unable to furnish due to shortage of commissioned personnel.

The services of reserve officers who were still undergraduates in the University were used to great advantage to meet this deficiency. As a reward they were certified for credit hours for active duty training, applicable toward their certificates of capacity for promotion in the Organized Reserves.

Rifle Team.—The Rifle Team is the only entry of this department in inter-collegiate sport. During the biennium it has maintained its traditionally high position by scoring seven first places, two second places, and one third place in Corps Area, regional and national matches. In addition, it has placed six members on the mythical All-American Rifle Teams: two on the first team and four on the second team.

Student activities.—Student morale is high and is due largely to capable student leadership within the R.O.T.C. The organization of the regiment lends itself to student government which is encouraged as a practical means of leadership training. The military fraternities and drill groups, co-ordinated by the cadet colonel and his staff, have been useful to the University in many ways.

The work of Company "E," 2nd Regiment, Pershing Rifles, winners for four consecutive years of the coveted regimental gold cup for excellence in drill, has been especially praiseworthy.

Rating.—All units of the department maintained the official rating of "Excellent" awarded by the Corps Area commander as the result of annual War Department inspections.

Respectfully submitted,

A. E. PORTS, *Lieutenant Colonel,*
Coast Artillery Corps, P.M.S.&T.

PUBLICATIONS OF THE FACULTIES

A list of the publications of the faculties of the University of Minnesota for 1936-37 is published as Volume XL, No. 77, and for 1937-38 as Volume XLI, No. 68, of the University of Minnesota Bulletin Series.

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