

The Biennial Report of the President  
of the University of Minnesota  
to the Board of Regents  
1934-1936

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## THE NATURE OF THIS REPORT

Every two years the president of the University of Minnesota submits to the Board of Regents a comprehensive report setting forth the activities of the many colleges and departments, calling attention to some of the problems that confront the institution. The biennium of 1934-36 has been an important one, and in many ways a difficult one. The registration at the University has increased to a new high point. There have also been important administrative changes and reorganizations. The up-swing of the business curve and the entrance upon a "recovery" phase of the depression created intricate problems that had to be faced. It is impossible to summarize effectively all of the materials that are presented in the biennial report or to indicate in a condensed form all of the complexities that the changes and growth of the past two years have induced. There is only one way in which the complete picture can be obtained and that is through careful reading of all the pages that follow. This reading will fully repay anyone who undertakes it, for he will undoubtedly acquire a better understanding of the University of Minnesota and the part that it is playing in the development of the state. He will see that in spite of all difficulties progress has been made.

The first portion of the report contains a discussion by President Coffman of various matters that pertain to higher education in this country. The central topic is "The Province of Education." Although the observations and the conclusions are focused directly upon the University of Minnesota, their significance is not limited to this one campus; they have a broad application. This statement by the president is followed by a series of sections devoted to events in the life of the University during the period 1934 to 1936.

The remaining pages contain the reports from the deans of the colleges and the heads of various other administrative units.

MALCOLM M. WILLEY,  
*University Dean and Assistant to the President*

THE PROVINCE OF EDUCATION

## THE PRESIDENT'S REPORT

*To the Honorable Board of Regents  
University of Minnesota*

GENTLEMEN: I have the honor to present my report of the University of Minnesota for the biennium 1934-36. This report contains a statement of the significant events in the life of the University during the last two years. Supplementing it are reports by each of the administrative officers of the University.

### UNSOLVED PROBLEMS OF YOUTH

The Board of Regents may recall that my report of two years ago was devoted almost entirely to a discussion of Youth and Tomorrow's Education. I called special attention to the number of young people who were out of work and out of school, and I undertook to analyze at some length the importance of extending and expanding the school system of the country to meet the needs of the thousands of young people who are seeking an education or who desire employment.

I regret that I cannot report that a satisfactory solution of these problems has been found during the last two years. Some progress has been made. There has been a remarkable increase in registration in the high schools, in the evening schools, and in the colleges and universities of the country, and a smaller number of youth are unemployed than a few years ago. And yet the youth problem, so-called, remains largely unsolved. A few general figures make this apparent. In the United States there are 20,100,000 young people between the ages of sixteen and twenty-four, inclusive. Of these, 4,000,000 are in schools and colleges, 500,000 are in school on a part-time basis, and 7,600,000 are employed on other than work-relief jobs. Of these youth 2,800,000 are married women who are not otherwise employed and are not in school. It follows from these data that there are approximately 5,200,000 young men and women who are out of school and unemployed.

### EXPLOITATION OF YOUTH

Various groups are making serious attempts to study the problems that arise from the conditions that underlie these figures I have just cited. To the work of the American Youth Commission, the Educational Policies Commission created by the National Education Association and the Department of Superintendence, and the American Youth Council, I shall refer later in these pages. They are seeking to accomplish a constructive purpose. Their sole interest is in the welfare of youth and the welfare of our society. There are undoubtedly others similarly motivated. Unfortunately there are other groups and associations that are taking advantage of youth's unsettled state of mind. More than three hundred national societies whose programs involve the exploitation of youth now exist in this country. What is more alarming is that almost every one of them is trying to secure a footing in the schools, particularly

in the colleges and universities. Within the last two years I have been importuned by thirty-five different organizations, national in scope, which would establish themselves on the campus of the University of Minnesota. Some of these organizations are ultra-conservative, others are ultra-radical in character. Not any one of them, so far as I have been able to discover, is genuinely or primarily interested in the education of young people. While a great majority of the young people in the colleges and universities have maintained their poise and sanity in these disquieting times and have refused to lend themselves to the dissipation of the true purposes of the universities, it must be admitted that nearly every one of these organizations is able to secure enough members to exist. Remonstrance against this invasion of the campus by these self-seeking groups is met with violent protest from them and their representatives within the institution. The special pleaders too often want what they want regardless of the aims and traditions of the University. They scorn tradition and flout authority in the name of freedom.

The phenomena I am stressing have appeared at other crucial times in the history of civilization. Youth have always been used by those who had a cause to promote. This is one reason for the instability of civilization, for the success of the demagog, and for the power of the reformer. Today, throughout the world youth are the instruments with which the dominant figures of many nations promote their political philosophies and their nationalistic ambitions. Where wars are fought, youth fight them; where new countries are conquered, youth do the conquering; where crusades are promoted, youth carry the banners and beat the drums. Old heads may plan a communistic state, but the Young Pioneers and the Young Communists burn with enthusiasm for it. Der Führer may formulate a Nazi philosophy, but young Germans organize and promote it. Mussolini may create a Fascist society, but his Black Shirts are, for the most part, the young people of his nation. The Mikado and his cabinet may conceive an imperial, oriental empire, but it is the young men who shout "banzai" as they push outward to acquire new territory.

Everywhere youth are being exploited. The older generation declares that ours is a young man's world; the young men believe it. Yet at the same time the folly and inexperience of youth make them easy victims of those who would manipulate them for ulterior purposes. The more majestic, the more flamboyant, the more emotional the appeal, the easier it is to lead the youth of any generation in any country. We have always declared that youth hold the key to the future. We have emphasized the thought that life to them is a progressing adventure and that civilization advances because of their courage, vitality, and resourcefulness. And then we inconsistently create or blindly encourage the creation of agencies or organizations that make of these youth creatures of the state or the subservient followers of some self-seeking group. This is happening now.

Let it be said, too, that the exploiters of youth tend to be destructive in their programs. They are "against" things, they constantly are on the hunt for "issues." Regardless of time or place, "all's wrong with the world." In contrast to the dark and one-sided picture portrayed by

these promoters, the youth of this country are not reminded with sufficient frequency of the changes for human betterment that have been effected here, of the difference in the standard of living in this country as contrasted with that maintained elsewhere, of the opportunities that exist for education, or of the freedom of thought, of speech, and of action. These are realities that are easily overlooked by those who would stimulate youth "to action." Nor do the young people seem to understand that as soon as a particular pressure group has secured allegiance, it almost inevitably becomes a domineering force that will turn upon them and curtail their own freedom and become militant against all others who decline to accept its precepts. Suppression in the name of freedom is an insidious force, which disrupts progress and precludes the achievement of a democratic and reasoned way of life.

There is only one weapon that equips the citizen—young or old—to combat and resist the tendencies of which I have been speaking, and that is popular education. It has long been and must remain the one means of social self-control in a democracy. If the schools, as agencies through which this education is acquired, yield their prerogatives or their functions to biased and prejudiced groups and become the channels through which self-seeking and self-perpetuating agencies reach the public, then the doom of democracy is sealed.

#### BEWILDERMENT OF YOUTH

The world has always been a bog for those who are willing to sink in it. The youth of today do not wish to be caught but they are unaware of the dangers. They are as bewildered and confused here in America as anywhere in the world. As yet they have not joined in any single crusade, but there are campaigns under way that may catch their enthusiasms and impel them to action.

This has already happened in Russia, Italy, Germany, and Japan. Even in America the political leaders are making widely varied appeals to the youth of the country. One school of political thought maintains that the civilization we enjoy is the result of personal courage, of the spirit of adventure, and of the limitless opportunities that this country has afforded. It tells young people that every limitation of these personal liberties and opportunities is a step in the direction of mass slavery and stultifying regimentation.

Speaking in equally loud voice, on the other hand, are those who scorn rugged individualism and tell youth that the civilization of yesterday was built by a selfish and arrogant aristocracy of wealth that exploited the masses, and that our cities, means of communication and travel, hospitals, schools, and churches have been erected by the sweat of the dumb, driven millions who had no voice in the program, and were given but a begrudged share in the benefits that accrued. They picture a new civilization for tomorrow—a greater, more tolerant, more sympathetic civilization in which nobility of character and chivalrous intelligence will be the sources of greatness.

We know that truth does not reside at either of these extremes but that will not deter the spokesmen from trying to deceive the youth of this country with false claims and specious arguments. They will con-

tinue their exhortations and justify themselves on the ground that young people—even those in the colleges and universities—are sadly uninformed or misinformed and that their future welfare depends upon the acceptance of the particular creed, theory, or program which the spokesman advocates.

#### ATTEMPTS TO CONTROL EDUCATION

Thus far this statement has been in broad terms. I have been stating the general situation. I have suggested that these are unsettled times through which we have been passing, and that unsettled times breed groups whose purpose, however disguised, is to capitalize upon the discontent and uncertainty of youth. Naturally such organizations seek a foothold upon the campuses of colleges and universities although their presence there inevitably distracts from or distorts the true purpose of an institution of higher education. It may be well at this point to shift attention from the general to the particular, and to elaborate the discussion with specific examples that will make clear how these organizations try to bend the colleges and universities to their own purposes.

Not long ago a prominent worker in one of the political parties called my office to say that his party was coming over "to organize the campus." When I asked him what he meant, he said that he and his group proposed to organize student political clubs, to have torchlight parades, to send speakers to address the students, and to distribute literature among them on the campus. To my demurrer he merely queried, with show of annoyance, "Don't you understand that the University of Minnesota is a public institution, supported by tax money, and aren't you interested in having your young people know the issues of the campaign?"

I had to retort by asking if it never occurred to him that one good and conclusive reason why he and his party should not come was because the University is a public institution; that if he and his followers were allowed to try to organize the campus, the other parties must be permitted to do likewise. I asked him to consider why the people of the state were taxing themselves to support the University—why they provided the resources to maintain libraries, laboratories, classrooms, and an expert teaching staff. Did he suppose it was to provide a place where party organizers could make political speeches before the young men and women who were in residence? The University of Minnesota is an *educational* institution first and foremost, and is not supported by the citizens of the state as a political forum. I called his attention to the fact that if all the parties came to the campus, we should be unable to carry on the regular work of the University. This is not to say we do not wish the students to be interested in current affairs, including politics. But there is a vast difference between allowing a group to swoop down upon the campus for the purpose of "organizing" students, and discussing in a balanced manner the issues of the day. I explained that we should be glad to have him send a representative of his party to speak at a time agreed upon to those who wished to listen and that a similar privilege would be given to the other parties, but that under no circumstances would we permit the campus to be "organized" and the University thus diverted from its work.

Sometimes it is a religious group that launches a youth movement

upon the community. I have known two such, where the purpose was ostensibly to promulgate Christian doctrines but was really to recruit joiners for the church. Similarly, I know of a youth movement started by a civic and commerce association where the motive was to secure from well-to-do citizens large gifts for the Christian associations by telling them pathetic stories of the plight of youth. Not long ago I received a communication from a leading weekly magazine of national circulation inviting me to assist in organizing a student forum on contemporary problems; the magazine would supply the materials for discussion. Obviously the proposal was designed to increase subscriptions.

### STUDY OF YOUTH PROBLEMS

Earlier in these pages I mentioned three organizations whose concern for the problems of modern youth has impressed me. At least their approaches to the questions that confront us are objective and scholarly as well as humane. One of these is the American Youth Council whose program has been designed to assist young people in holding their jobs and improving their employability, and in assisting those without work to find it. It proposes programs of vocational guidance, vocational retraining, and citizenship instruction. In the region in which it is working it has registered the names of 10,000 young men and women, and has established contact with 2,000 potential employers. Here is something constructive. As this organization succeeds in accomplishing its objectives it will contribute immeasurably to the welfare of the youth in whose behalf it was conceived.

Of a somewhat different nature, but similarly motivated, is the American Youth Commission, created by the American Council on Education. It is directed by Dr. Homer P. Rainey, formerly president of Bucknell University; its members are Will W. Alexander, Atlanta, Georgia; Newton D. Baker, Cleveland, Ohio; Ralph Budd, Chicago, Illinois; Lotus D. Coffman, Minneapolis, Minnesota; Mrs. Dorothy Canfield Fisher, Arlington, Vermont; Willard E. Givens, Washington, D.C.; Henry I. Harriman, Boston, Massachusetts; Robert M. Hutchins, Chicago, Illinois; Reverend George Johnson, Washington, D.C.; Chester H. Rowell, San Francisco, California; William F. Russell, New York City; Mrs. Edgar B. Stern, New Orleans, Louisiana; John W. Studebaker, Washington, D.C.; Miss Miriam Van Waters, Framingham, Massachusetts; Matthew Woll, New York City; Owen D. Young, New York City. The sole interest of these men and women is with youth and their problems. They recognize clearly, however, that painstaking study, and not talk and more talk, is the requisite for their solution. They seek facts out of which understanding may develop.

The work of the commission is now in its early stages but already interesting and pertinent materials are being uncovered. A preliminary report states that the causes of unemployment are (1) that there are few jobs available, (2) that a large percentage of young people are not qualified for the jobs that are at hand, (3) that about one per cent of youth do not want jobs. If these tentative conclusions are correct, it is apparent that we must do more than create work; we must provide a training which will fit youth for the kinds of jobs that will be available for them. The American Youth Commission is making a survey and an analysis of

youth itself; it is studying the new kinds of work which are likely to appear in the near future, and the lines of work in which there will be a shortage of labor within the next two or three years. Among the most important things it has done is to call into conference the leaders of industry and labor in this country with the thought that they adopt a plan to provide for continuation schooling for large numbers of young people who desire to fit themselves for trades, for government positions, for social work, or for other lines of employment that are adapted to part-time arrangements. It is apparent that no one institution in this country can assume responsibility for the solution of the youth problem; the solution is a common responsibility that rests with equal weight upon industry, labor, and education. The American Youth Commission recognizes this fundamental fact.

While the two organizations just described are approaching the problems of youth from the employment side, the Educational Policies Commission, created by the National Education Association and the Department of Superintendence, is attacking them with an approach through education. This commission is concerning itself with the provisions that should be made in the educational program of the country to train young people more adequately for the discharge of their citizenship responsibilities. By citizen responsibility the commission does not have in mind merely the exercising of the rights of suffrage, but a larger conception that involves mastery of the new social and political problems upon which citizens will be called to pass judgment.

These three groups are cited from among those that are studying the problems of youth solely in the interest of public welfare and with a desire to serve and to contribute to the interests of youth with no thought of gain to themselves. They stand as illustrations of the type of activity that is needed if youth are to be understood and helped, rather than exploited.

#### RESTRICTIVE PRESSURES THAT HAMPER EDUCATION

It is in a world distraught and unsettled by conflict and emotion that the schools today find themselves. It is accordingly not always easy for them to maintain their integrity and to fulfill their purposes. I know that education has been imperiled many times in the last one thousand years by those who sought to use the schools for some special purpose. The history of education records many instances of direct action and it also records the grim sacrifice of teachers who tried to save the spirit and traditions of education at such times. I hope we face nothing in America so disastrous as the loss of freedom of learning. Yet it must be said that twenty states now impose loyalty oaths upon their teachers although they impose no such oaths upon any other class of citizens. This is a clear infringement of a liberty cherished, fostered, and exemplified by the teachers of America since the days of our forefathers.

There is one factor in particular that enhances the difficulty of maintaining the liberty of higher education. Many of the groups now trying to establish themselves upon college and university campuses are openly advising their adherents to defy the traditions of the institutions and to disregard the advice, the wishes, or the judgment of administrations and staffs. Any reaction to this defiance gives rise to a charge of suppres-

sion. President Henry N. MacCracken of Vassar College remarks upon this point: "The dilemma of the college administrator today is that whenever he endeavors to defend his college from use as a recruiting ground he is charged with tyranny and suppression of free speech. Whenever he defends the rights of students to free discussion about any important problem, he is criticized as a radical." He then adds: "While academic freedom will be loyally maintained, the institution will not tolerate either the lowering of its academic standing by neglect of its true work or the disintegration of its social integrity by raiding parties under any banner, at least so long as free institutions prevail in the states."

#### EDUCATION AND THE EXTREMISTS

The problems of the colleges and universities are further complicated a thousand-fold by the fact that crusading minorities never really want the truth. Extreme radicals and extreme reactionaries alike are foes to progress. Both are uncompromising, both are intolerant, both ignore facts and refuse to be influenced by them. One seeks progress by direct action, the other by preventing change of any kind. Between the extremist groups is a large and growing body of liberal-minded men and women who want the truth and who are willing to be guided by it. It is they who understand, appreciate, and cherish the essential and unique guide to action in a democracy, namely, reasoned discussion, not sentimental dreaming. They know likewise that the true spirit of a college or university finds expression through reliance upon facts and tested opinions. The highways of democracy and of university life are both hard and hazardous highways; to travel them successfully calls for a vast common sense and hardihood born of the pioneers of this country. But these are the highways America has chosen and must continue to follow. Science, religion, art, will never flourish where human minds are suppressed. Nor will complex political issues and fundamental economic problems be solved, nor universal peace be established, where the full freedom of human spirit is checked by emotional appeals and the doctrinaire presumptions and demands of propaganda groups. All such appeals represent primary and fundamental forms of coercion, designed to jeopardize or destroy the liberalism that underlies both democracy and the continued usefulness of colleges and universities.

A fundamental question confronting the colleges and universities is whether or not they can so protect themselves from external pressures that they are able to engender in their students a resistance to propaganda. Only free minds can train citizens who will be free. I sometimes am filled with despair, but I know we must never cease our efforts. Education is the only hope. The alternative is ignorance and confusion. And as Santayana said: "The ignorant are constantly being duped by the things they think they know."

#### NEED FOR A NEW EDUCATIONAL TECHNIQUE

I recognize fully that a modern university is not a "cloistered hall" that exists apart from the larger world. All the social currents of our generation flow across the campus. Of course they cannot be ignored, nor can we Canute-like demand that they recede from our academic

gates. How can we best meet them? I am clear that there is no gain in "organizing" for or against them. It has seemed to me that perhaps the time has now arrived when the colleges and universities should try some new device to facilitate intelligent, unbiased, and unemotional consideration of the problems associated with these far-reaching social changes. Let us consider one problem as an example. I refer to universal peace. What causes war and how it can be averted are matters of supreme importance. War is the greatest single threat against civilization, but it does not seem to be generally understood that it arises from defects in that civilization.

Institutions of higher learning should be concerned in searching out and laying bare the causes of war. They should also analyze the remedies that are suggested for their elimination. Every aspect of the problem—economic, political, and psychological—should be studied and minutely analyzed. We should learn what part diplomacy and nationalistic ambitions play in stimulating wars. We should study the League of Nations and the pacts designed to assure peace and learn why they have failed. We should bring to our campuses the best informed men and women in the world to discuss with us those phases of the problem which they are uniquely competent to discuss. 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 the invitations to those whose participation would contribute most. A general and inclusive conference of this character would not prevent an institution from encouraging discussion groups composed of its own membership. But if efforts were concentrated at periodic intervals for the purpose of drawing together the best knowledge available concerning war and peace, far more would be accomplished than in any other way, and such a method would be compatible with the scholarly interests of a higher institution of learning. Evangelism, while it may be a proper method for other institutions to use, is not an appropriate method for higher institutions of learning to employ in the study of any question.

Joint committees of students and staff might in a similar manner arrange 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.

#### THERE MUST BE FAITH IN EDUCATION

The preceding paragraphs may be summarized by saying that men must have faith in education. I stood not long ago in front of an impressive painting by an eminent artist. It hangs in the beautiful new Student Union at Indiana University where thousands of students pass by it every day. The artist portrays barbarism trying to destroy civilization. Books, churches, and school buildings are shown. In a lower corner

of the picture are two little children, symbolizing the hope of civilization in the days to come. To the left of the children and towering over them is the distorted figure of a man expressing hate and venom and prejudice in every line of his countenance. He is reaching out his grimy hands to seize and destroy the infants. From the door of the university emerges a clear-eyed youth; around him are the instruments of learning with which to destroy barbarism. The face of the lad shows the signs of surprise and uncertainty. As one looks at the picture, one wonders whether this youth will have the strength and the courage and the ability and the self-mastery to use effectively the instruments that he has available in the struggle against barbarism.

The president of Indiana University recently received an anonymous letter written on a scrap of paper. It said:

I stood on the steps of Maxwell Hall again. It was night and I saw the moonlight filtering through the leaves of the trees and the foliage of the shrubbery. In my fancy I saw the campus vibrant with life, throngs of students rushing here and yon; I shared again the student life with all of its activities and its thrills. Twenty years have elapsed since I went down the steps of Maxwell Hall for the last time as a student, but as I stood in the moonlight and relived the scenes and activities of the campus I appreciated for the first time what the university really means and how precious its inner life is.

Persecution, ignorance, bigotry, and intolerance can be conquered and driven into permanent retreat only if we dedicate ourselves to the task of keeping the lamps of learning aflame and undimmed. I have great faith that the majority of students at the University of Minnesota and elsewhere will equip themselves to join in common battle against a common enemy and that civilization will be advanced by their study and understanding of its problems.

Professor Gilbert Murray of Oxford, upon the recent occasion of his seventieth birthday, characterized scholarship with these words:

A society without history cannot understand what it is doing; and history without scholarship cannot understand itself. For scholarship is just the understanding, the intimate understanding with imagination and with love, of the noblest things of the past: the great thoughts, writings, doings, aspirations, which still live, but live precariously, because they will die if they are not understood, die if they are not loved.

#### THE LIVING UNIVERSITY

Although new interpretations must be made from time to time of the meaning of a university and its place in civilization, it would be tragic if we forgot that it possesses certain traditions and ideals to which we should cling with all our power. On various occasions I have declared that a university must be a living thing, in close and constant contact with the world it is supposed to serve. Sound as I believe this principle to be, it cannot be advanced as an argument for making a university the creature of the market place. It may appear to some individuals that a university cannot preserve the historic traditions of higher education and at the same time be a living, growing, pulsating institution. Clearly a university may have its face turned so completely to the past that it will be unfamiliar with what is going on in the world. On the other hand, it may be so engrossed in current events that it will contribute little or nothing to essential scholarship.

I know that many persons look upon a university as something more than an instrument to promote learning and research. To them a university is a society composed of thousands of persons, students, faculty, employees, but mostly young persons, constantly changing and yet retaining amid all of its changes certain permanent characteristics. A university in a true sense has its own concerns and its own loyalties: the university society may have its own concerns, its own loyalties, its own politics. A university may reflect the concerns and loyalties and politics of society in general or of its society, but it can also stand aside and refuse to be a full participator, reserving to itself the rôle of an understanding observer.

#### PRESERVATION OF ACADEMIC LIBERTY

Nothing is more precious to a university than academic liberty, which is the freedom to carry forward its work. Without it a university cannot survive. And yet in common with every other noble virtue or possession of the race, its value is only relative. The abuse of it becomes a vice. Intolerance may masquerade behind its mask. The champions of academic liberty may destroy it by espousing uncritically every new proposal that may be made. Universities cannot chase after every Pied Piper who comes playing down their streets and at the same time be true to their purpose. New ideas must be tested. Time shows that most of them are wrong. A certain lag is desirable for the examination and analysis of new ideas if there is to be real growth and continuity and stability. Universities are the best institutions yet devised by men for the testing of human experience.

Because knowledge is of common interest, regardless of the political boundaries that separate people, civilized societies and nations generally have given the scholar and the scientist a certain immunity from interference in their search for truth. Such immunity carries with it an obligation. Alas, while the claim to immunity is rarely forgotten, the accompanying obligation too often is. Using the shield of "academic liberty" for protection, faculty representatives occasionally become the advocates of programs, of causes, of movements which bear no relation to the fields of learning that they have mastered. The fact that this brings them into disrepute with competent scholars who hold steadfastly to the pursuit of human learning, and that they often become objects of public ridicule, is bad enough, but far worse is the fact that performances of this character often jeopardize the very existence of the university itself.

Dr. A. V. Hill, Fullerton Professor of the Royal Society of England, puts the point this way:

Scholars and scientists possess varying degrees of capacity in practical affairs. One disadvantage of prominence in any calling is the fact that the world, at least its newspaper reporters, is apt to believe that the views of the prominent person are of importance in matters altogether unrelated to his special capacity. The views of Bernard Shaw, the Jester, are quoted on politics and science; Soddy, the Chemist, writes fantastically about economics; famous astronomers get entangled with divinity or metaphysics. No doubt it is to be desired that Shaw should take an interest in science and Soddy in economics; preferably a reasonable and not an emotional interest; my contention simply is that their views need not be taken more seriously than those of more ordinary people.

The importance of the problem to which Dr. Hill refers is also attested by the efforts of the American Association of University Professors to define the conditions that will insure intellectual liberty, and still further by the fact that President Angell, President Conant, President Hopkins, President Hutchins, President Frank—to mention but a few—have either written or spoken about it recently. Dean Guy S. Ford's Phi Beta Kappa address of 1934 was likewise upon this theme. Every one of these distinguished leaders was pleading for the preservation of academic liberty. They have seen it disappear in Russia, in Germany, in Italy, and they sense the forces at work in this country—some radical, some conservative—that would destroy it here. The universities of this country are in imminent danger of losing their independence because of the extreme liberals who intolerantly seek action without knowledge, and because of the ultra-conservatives who are goaded into antagonism when speech is free, even though it is based on knowledge. No virtue can be preserved by abuse. If scholarship gives way to communism or fascism, if it ties itself to emotion, to one-sided social or economic theories, to any form of propaganda, the privileges it has so honorably enjoyed will be lost. Human learning will continue to guide human advancement only if educational institutions refuse to meddle with, or to be dominated by, "isms," creeds, or doctrines. Science cannot be coerced and still be science; scholarship cannot be prostituted to pre-conceived or ulterior ends and still be scholarship.

#### FORCES THAT ENDANGER LIBERTY

Liberty of any kind is not assured as a birthright; it must be achieved. From generation to generation constant watchfulness is necessary if it is to be preserved. It is to the many forces at work today that would suppress, if not destroy it, that I call attention. They are felt by every educational institution. A nationalism which teaches violence and preaches hatred, a bigoted and flabby internationalism that scorns one's own country, a political and religious intolerance which, for the moment, seems to be increasing—all tend to restrict learning and to convert it to their own purposes. To these forces should be added one other of modern origin—mass propaganda. Hysterical outbursts of nationalism, such as we have witnessed in Germany, fantastic dreams of political and economic reformers in this country, and various other powerful movements designed for special ends have been and are now being promoted by an appeal to mass psychology. One can understand why these skillfully prepared proposals should appeal to the uninformed, but for them to gain acceptance and to recruit advocates in academic groups seems totally incompatible with what we conceive to be loyalty to the functions of a university.

At a time when academic freedom is being challenged everywhere throughout the world, when informed opinion is being stifled by force, when advertisements and exponents of propaganda offer prizes to or extol those who are willing to stultify their intellectual consciences, it is well that we recall our debt to learning and scholarship, and renew our determination that the conditions that have produced the priceless heritage shall not be destroyed. No one knows where the next blow will

be struck. Two years ago German scholarship was free; now it is manacled. No premium is placed upon intellectual honesty in either Russia or Italy. We must not deceive ourselves—popular hysteria or mass insanity may appear in other places. Freedom of action has already been restricted, even in this country. Freedom of thought and freedom of expression are endangered. As citizens we are interested in political and economic liberty; as members of a university community who have an enormous stake in the preservation of academic liberty, we must be prepared to make the sacrifices its preservation may require of us.

#### "I CULTIVATE MY GARDEN"

It is well to iterate again and again that the primary concern of a university is the advancement of knowledge and that universities must hold steadfastly to this conception even though it involves the apparent loss of some temporary advantage. In the last chapter of *Candide* there is a story of an old fruit grower to whom Pangloss applied for information about a vizier who had been strangled. "I know nothing about it," said the old fruit grower, "but I presume that in general those who mix in public affairs often perish miserably—and they deserve to. I cultivate my garden." Cultivating one's garden means in university circles that the weight and prestige of the university must always be thrown on the side of intelligence. Mr. Abraham Flexner in his great book on universities puts this point clearly and forcefully with these words:

In this world rocking beneath and around us; where is theory to be worked out; where are social and economic problems to be analyzed; where are theories and facts to be brought face to face; where is the truth welcome or unwelcome, to be told; where are men to be trained to ascertain and to tell it; where, in whatever measure it is possible, is conscious, deliberate and responsible thought to be given to the task of reshaping this world of ours to our living, unless first and foremost, in the university? The wit of man has thus far contrived no other comparable agency. . . . But even so, it is one thing to incur responsibility for policies, and quite another to set up an experiment primarily in the interest of ascertaining truth or testing theory. The modern university must neither fear the world nor make itself responsible of its conduct.

These ideals can be achieved most effectively and most advantageously when a university is concerned with being itself, that is, in *knowing* rather than in *doing*. A university will study every question that affects human welfare, but it will not carry a banner in a crusade for anything except freedom of learning. A university studies politics, but it will not advocate fascism nor communism. A university studies business, but it will not engage in commerce. A university studies social relief, but it will not undertake to administer it. A university studies engineering, but it will not build bridges. A university studies stocks and bonds, but it will not operate an investment house. A university studies military tactics, but it will not promote war. A university studies labor relations, but it will not engage in strikes. A university studies peace, but it will not organize crusades of pacifism. I do not mean to confine scholars to a cloistered existence. They must enter the world if they are to comprehend it. But they must enter it, as scholars. Only in this way can they successfully "cultivate their own gardens."

## RESPONSIVENESS TO OUTSIDE FORCES

Responsiveness to forces that lie outside the university, and the willingness on the part of any group to exalt the slogans and programs of nonacademic agencies at the expense of the university, are among the chief factors that weaken co-operation between students and staff. Naturally everyone associated with the university is concerned with his rights and privileges. What rights and privileges do we have? Only those which maintain the purposes of the university and promote its welfare. Unless its good name and its essential purposes are kept constantly in mind, we shall undermine, dissipate, and destroy it by playing with extraneous things and making the campus the unguarded forum of self-seeking agencies.

Students also sometimes forget that universities are not maintained primarily for them. They, too, must be reminded that universities are maintained to discover truth and to assemble and disseminate knowledge. The universities can survive without any given student or without any group or class of students, barring one: those students who preserve the traditions of learning.

Few people know what the most difficult job of a university president is. It is resisting the pressures of individuals and of groups who wish to use the university's prestige to further their own interests. Put in another way, the most difficult as well as the most important responsibility of a university administration is that of keeping the university free to do its work. In the discharge of this particular responsibility the administration must have the co-operation and assistance of every student and faculty member, as well as every citizen, who appreciates the importance of education.

## OBLIGATION OF A UNIVERSITY TO DEMOCRACY

Democracies can survive only where differences of opinion are tolerated and where popular decisions are reached through public discussion and understanding. The democratic way of arriving at decisions is directly opposed to the methods of the propagandists. A propagandist is a person who has a closed mind, while a democratically disposed person is open-minded. While democracy will defend the right of the propagandist to exist even though his opinions may be abhorrent, it will still pursue the ways of learning and of public discussion in reaching public decisions. American democracy was never in greater need of defenders than now. Many of its professed friends are really enemies. As Chancellor Capen of the University of Buffalo recently said, "With the best intent they may destroy it by undermining its most essential characteristics, liberty of opinion and of utterance." There is no institution in democratic society that more nearly symbolizes democracy than the American university. There is no institution in which there is greater tolerance, no institution in which there is greater freedom of discussion, no institution in which judgments are based more completely upon tested opinion. The university advocates nothing except understanding. It will not engage in indoctrination. It will not undertake to destroy the witch hunters and the red baiters and the professional patriots; on the contrary, it will undertake to argue the question with

them, but it will not give itself over to their control, for that would mean that the democratic method of making progress would be destroyed.

#### BUILDING A UNIVERSITY

What should a great university be? There are two conceptions of a university in the world today. One is represented by the English and Scottish universities and the other by the American state universities. The British point of view was ably presented by Sir James Irvine of St. Andrews at a conference held at New York University in 1932. Sir James said:

The essential function of a university is to train the mind, and that type of disinterested study which has stood the test of time in the ancient universities is best suited to nourish the growing intellect. . . . My conviction is that the universities will continue to produce leaders of both thought and action if they make it their special aim to produce thinkers. . . . A university is responsible for enlarging the boundaries of knowledge rather than for colonizing the territory it explores.

It is clear that Sir James would not have a university too much concerned with current events, nor have it drawn into the arena of social and political conflict. His university would stand somewhat aloof as the world rushes swiftly by. His staff would not spend their time trying to reorganize society, nor would they be on leave of absence engaged on governmental projects. His school would not offer instruction in subjects designed to fit one for the practice of some skill. There would be no courses in home economics, in journalism, nor in trade and industrial education. Courses to train for careers as managers of dude ranches, hotels, or police forces, and curricula for beauticians, morticians, barbers, and foremen in shops would be utterly inconceivable in an English university.

In Sir James's university, men would gather wisdom by understanding, and understanding would be acquired by studying the problems that appeal to the mind. Men would grow strong by working with ideas. Fundamental subjects rather than the specialties would characterize the curriculum. Even in the professional fields the British would steadfastly adhere to this principle. The English and Scottish schools of medicine, for example, give far more emphasis to the fundamental sciences and less to hospital and clinical practice than we do; the schools of law give more attention to the history of law, and to an understanding of jurisprudence and less to moot courts than we do; agriculture would be taught with a view to advancing it as a science rather than as an art.

The conceptions of a university have not changed materially at St. Andrews in a hundred years. Figuratively speaking, St. Andrews sits on Mount Olympus free from the pressures of the world, studying the needs of the flocks in the valley below, and shedding luster and learning upon them according to their need. It is a magnificent conception of what a university should be; it is one that we should keep constantly in mind lest we dissipate our intellectual strength upon the lures and social vagaries of the times.

Powerful as is the appeal of Sir James Irvine's picture, it does not fully pertain to the pattern of the modern land-grant university in the United States. Just as we should guard ourselves against becoming too

"modern," so the university he describes must beware of becoming too sheltered. We must avoid overemphasis of skills and techniques; many foreign universities must beware of the dangers involved in overemphasis of traditional learning. We perhaps spend too much effort in trying to reorganize society; they, in contrast, do not spend enough in seeking to understand it. The attainment of a happy balance between these two conceptions is a matter to which we should give particular attention at the present time. This is especially true for the state university, because of its closeness to the people of the commonwealth who give it support. They make demands upon it. They turn to it for help in solving their daily problems.

#### RESEARCH AND THE UNIVERSITY

A university does not confine its activities to teaching; it is even more an institution of inquiry. The scientific spirit should pervade and activate its atmosphere. Within the limits of its resources it must carry on researches in every field. We should constantly remind ourselves that the university that devotes itself most diligently to fine teaching and to its own researches will be rewarded in days to come through the satisfaction that follows the accomplishment of a well-done task. There is no greater reward. Universities must conduct their researches without thought of gain to themselves. Their staffs must pursue their inquiries with a spirit of selflessness that characterizes no other group. And yet a state university by its very nature teems with a variety of projects, investigations, and researches that affect the economic welfare of the commonwealth by which it is maintained. Even so, universities must never temporize or fall prey to the allurements of the moment; they must not be swayed by the noise and tumultuous shouting; they must look far into the future and pursue their immediate ways calmly, unafraid, open-minded—always trying to discover new knowledge and to advance human learning.

#### CULTURAL LIFE OF STUDENTS

In my judgment a university should not be concerned with teaching and research alone; it should advance personal culture as well. A university that in its training of students relies solely upon a library, laboratories, and classrooms, will fail in one of its most important responsibilities. Things of the spirit are no less important than things of the mind. I would have a university put an indelible stamp of culture upon its students. By culture I mean appreciation of the fine arts—painting, music, literature—I mean elegant speech, good manners and address, a genuine conception of sportsmanship. A "good life" involves these in a fundamental way.

Many things will contribute to the cultural enrichment of the student—a theater, an auditorium, music studios, an art gallery, dormitory libraries, to enumerate but a few. I would make it as easy for students to obtain fine pictures for the walls of their room as it is to withdraw books from the library. As a matter of fact, students at the University of Minnesota now have this privilege. I would have faculty members without portfolio who would visit the campus to address the students and then remain to work with them in an informal manner. By example,

one learns much. In this group I would have persons of the most cultivated speech. I would have persons who are creative artists in painting, sculpture, poetry, or literature. I would invite to the membership acknowledged masters of vocal and instrumental music, architects and designers. All of the arts would have representation, including those of everyday life, such as costuming, interior decoration, and even "manners."

I should expect my faculty members without portfolio to interest the students in those intangible things that make life more pleasurable and more worth living. And I should expect that the impact of all this would permeate the institution as a whole. I do not mean to impose upon students any artificial snobbishness that will make of them narrow "esthetes." I would have this culture of which I speak become a part of their lives, and be fully absorbed in their personalities. They would live it, not merely wear it externally like a dress. "Art as a way of life" is no empty term. It is a fact, but one too often neglected by our educational institutions. Let me hasten to add that if I have created the impression that the faculty in residence is devoid of these cultural interests, then I have misled you. They already contribute much to these ends incidentally, but I should bring this purpose boldly into the open and emphasize it as a matter of paramount importance. No university has done this fully, partly because universities do not ordinarily have the money to engage such a faculty as this of which I speak, and partly because they are timid about such things.

#### DIFFUSION OF KNOWLEDGE AND ADULT STUDY

In addition to their concern with teaching on a high level, with research of every kind, and with the elevation of the esthetic and personal ideals and practices of their students, state universities must devote a portion of their energy to the dissemination of knowledge. The usual ways of doing this we know well enough. There is one service which has hitherto received scant attention to which I should like to make reference. My opinions with regard to it have arisen out of the various efforts to provide education for the adult population in municipalities, in states, and in the nation. Universities have been working in this field for many years through their extension departments and by giving occasional lectures at various centers. It is clear to everyone familiar with the situation that we are not accomplishing as much as we wish by these means.

Various factors tend to keep the adult population in a state of comparative ignorance. One of these is the speed with which human knowledge is accumulating. At the University of Minnesota we found it necessary because of the advances in medical sciences, to repeat in the Medical School a course for students in the senior year that had three years earlier been given to them as freshmen. Fifteen years ago I knew all of the statistical techniques in educational inquiry, but when a controversy arose in our institution with some statistical experts in another institution and copies of their letters passed over my desk, I had to admit that I did not know what they were talking about. Nearly every professional man finds himself in the same situation sooner or

later, partly because new knowledge has accumulated too rapidly for him to assimilate and partly because of his own inertia.

Too few of the university graduates become or remain effective leaders. Nearly every representative of the learned professions experiences an intellectual let-down a few years after he leaves college. No matter how conscientious professional leaders are, the gap between what they know and what they ought to know widens.

We have now erected near the center of the campus a building having living accommodations, classrooms and seminars, a library, and a chapel. We shall encourage doctors to return to the University once every four years; the lawyers, the engineers, the public school leaders, the ministers, and the representatives of other groups, we hope will come at various intervals for genuine study in refresher courses. We believe this program we are inaugurating will do much to elevate and maintain a high intellectual standard among all of the professional classes of the state and that the benefits of it will be revealed in a better quality of service to the public. We have appropriately named this new building the Center for Continuation Study.

#### IMPORTANCE OF EXCELLENCE

I have now completed the broad outlines of the kind of state university I should like to see. Not long ago a writer in the *Atlantic Monthly* declared that Harvard stands at the head of the universities of this country. I suspect that is true. But I wrote him that it is unfortunate that no state has as yet provided a public university that can take its place beside Harvard in every respect. Democracy has not yet become conscious of the importance of excellence. It still thinks that cheapness and numbers are assets. And yet there is no state that is not richer than all of the alumni of Harvard. Should any state once dedicate its university as the real center of intellectual and spiritual life, accept it as fundamentally essential to its economic stability and growth, and acknowledge it as the primary agent for elevating the cultural interests of the people, and as the means of elevating professional service to the highest levels human ability can achieve, that state would build for all time an educational institution unrivaled throughout the world. Perhaps we may never fully achieve this ideal, but if we frame our ambitions in any narrower terms we shall be unworthy of the trust we have accepted and of the confidence of those we would serve.

#### PROFESSIONAL LEADERS AND SOCIAL CHANGE

It is not possible to discuss ideals in education without reference to the subject of leadership in modern society. One of the easiest things in the world is for the followers of a profession to be led astray from the practice of their profession. When lawyers become insurance agents; doctors, public officials; and teachers, standard bearers in a crusade for some new doctrine, then law and medicine and teaching suffer. The surest way for a lawyer to gain the respect of those who know him is to become a better lawyer; the best index of a doctor's worth is the attention he gives to the practice and improvement of medicine; the most impressive sign of success on the part of a teacher is his growth in schol-

arship and the improvement in his teaching. These truisms are so axiomatic that one scarcely hears them mentioned any more; moreover, if one does mention them, he is likely to be regarded as behind the times.

I know there are those who maintain with vigor that there is an obligation resting upon everyone to put social welfare ahead of his profession. Some advocates of this assumption would have us believe that the lawyer should forget his law, the doctor his medicine, and the teacher his teaching, to engage in campaigns for one cause or another. Of course the lawyer, the doctor, and the teacher have citizenship responsibilities along with all other citizens. It is clear, too, that because of their training one may expect them to know more than others concerning the trends and problems of the times. Because of their position, they must help to interpret the trends and to solve current problems. But it is not the primary business of the lawyer, the doctor, or the teacher to administer our government. That kind of administrative responsibility calls for a special class of highly trained people who can devote themselves diligently, faithfully, and intelligently to the study of government and its problems. We have been a government of amateurs too long. We have maintained that everybody is competent to fill every public office. The man who promises the most, often has more support from the electorate than the man who guarantees a sound administration. Never was the tendency so pronounced for almost every individual to regard himself, in some degree, as an expert in problems of government, and even to maintain a claim of competency to fill any public office. Many men who cannot balance their own checkbooks, or do not even have bank accounts, have no hesitancy in passing judgment upon intricate fiscal problems.

#### WHAT MAKES A GREAT TEACHER?

What I have just said about the professions in general, and the rôle of the professional man as a leader, has a special pertinence when applied specifically to the college teacher. In a time of change, teachers especially must try to understand the social forces that are exerting an influence in our lives, and seek to analyze the channels through which they gain expression. At the present they must know more about government, security, taxes, and taxation; about tariffs, exchange, commerce, war, and peace—far more than they have ever known. They must be familiar with the competing political philosophies. They must be students, as never before, of the circumstances and conditions that affect human welfare. I would, however, call their attention to the fact that a teacher acquires this basic understanding primarily that he may become a better teacher. There rests upon the teachers as upon no other class, the supreme duty of teaching the facts about human progress.

Let it be repeated that the recognition of a teacher comes as a result of his worth as a teacher. The worth of the teacher is enhanced as he grows in intellectual stature, as his knowledge becomes more expansive, more catholic, more cosmopolitan, and as he becomes more skillful in the techniques of his profession. A truly great teacher is one who comprehends the things he is teaching as social instruments or social materials that bear intimate relations to the world in which we live. A truly great teacher is the one who is able to fuse the fragmentary substances of the curriculum in the alembic of analysis in such a way as to produce

students whose attitudes of mind and dispositions of character are socially desirable and socially worthy. It is these qualities that one expects from a teacher, and not traits of mind and personality that induce him to become the prompt and ready advocate of every will-of-the-wisp reform movement that may gain headway during a recovery period. If the teachers of America were to enroll under the banner of some social philosophy in the name of recovery and, as a result, neglect to improve themselves as teachers, the traditions and dreams, the hopes and ambitions, the virtues and values of everything we have stood for during centuries in this country, would be destroyed or discredited.

The great names in the field of education are the names of great teachers, or of great researchers, or of great exponents of education. Why do we return time and again to the writings of Henry Barnard, Mary Lyon, Horace Mann, William James, Susan Blow, Mark Hopkins, G. Stanley Hall, William T. Harris, Charles W. Eliot, Henry Suzzallo? Is it because of what they had to *say* or what they *did* about education? It is true that some of them took occasional excursions into other fields, but their immortality does not rest upon what transpired during these excursions. It rests upon their efforts to improve education. They were always at the front trying to raise standards, to improve the techniques of instruction, or to reconstruct and reinterpret the curriculum to conform to the needs of the times. Each of these leaders looked upon schools as great social institutions which society could use for its own good if it but learned how to do so.

#### LIBERATION OF THE HUMAN SPIRIT

What is education for? Why do we spend time perfecting ourselves in the sciences of education and in the art of teaching? Not primarily to make learning easy, economical, and efficient, although these objectives are among our purposes; not primarily to advance ourselves, although advancement accompanies our growth and achievement; not primarily to solve the problems of society, although we expect our efforts to contribute to solutions. No, we find that the justification for education lies in the fact that we are attempting to liberate the human spirit and to direct it in ways that will lead to its own self-development and growth. A school is merely a device which society in its wisdom has created to provide for the human spirit the stimulation that will enable it to attain, under guidance and within the limits of its possibilities, its largest and most expansive expression.

There is, in my opinion, a public conscience in the teaching profession—a conscience which expresses itself in a “constant and continuous searching for the thing that is better,” which, as President Norlin of Colorado recently declared, “will prevail unless the venal efforts now being put forth to degrade not only the economic status but the social status of the teacher succeed to the point of making teaching, not an honored profession, but a menial occupation.” And of this I have no fear, provided we hold fast to the deep-seated traditions and sound doctrines that have permeated education from the beginning, and provided our country is able to solve its economic and unemployment problems successfully without destroying democracy. The sound solution of these problems is best assured through education.

## TRUE MEANING OF EDUCATION

If I had the power and facility of expression to appraise the point of view which I have been trying to elucidate, I would, if possible, stir the teachers of this country to a higher sense of responsibility. I would sing the paeans of education as the one and only hope of democracy. I would, for a moment at least, forget its weaknesses and the mistakes it has made. I would refuse to point the finger of scorn at the unregenerate minority in society who deride education, who sneer at the educated man in public life, and who wish to pursue without restraint their continued exploitation of the masses. I would, for the time being, cease to lead the campaign for salary restorations and for better salaries—God grant that the teacher may be paid in money more nearly in accordance with his worth—I would cease praising the political systems of other countries with their regimentation and loss of personal freedom. If I could write as I should like to write, I would do none of these things just now. I would exalt the real leaders of yesterday; I would present the wisdom of the past as deserving of our most profound consideration; I would show that society can go forward only through the progressive evolution of education; I would praise the teacher who, as he leads others, pursues the pathway of learning himself; I would carry the message of education to my people, my community; and I would provide a leadership which would consist chiefly in giving to the community better schools for the people of all ages.

An editorial in the *Minneapolis Journal* not long ago focused attention upon the educational philosophy of Mr. Chips, the kindly, crusty, humorous, and altogether lovable old teacher in James Hilton's delightful story, *Good-Bye, Mr. Chips*. Mr. Chips concludes that the most desirable product of education is an understanding of the fitness of things, a sense of proportion. It is this, he maintains, that has given England its distinctive quality of poise, of leisured dignity, of easy efficiency, and it is this which modern industrialism with its chase after wealth and pursuit of success threatens to destroy. Although criticized and humiliated at times for his unprogressiveness, Mr. Chips stood steadfastly by his task of maintaining a good school, and died the most respected and honored man of his community.

Mr. Chips's philosophy is worth pondering over. Do we not run to excesses of taste, of self-indulgence, of extravagance and display? In our revolt against the traditions and conventions of the past, are we not sometimes intemperate in our statements? Even in our social and political reforms, we rush madly to extremes, and hover uncertainly between the dictatorship of the money power as represented by fascism on the one hand, and the dictatorship of the proletariat on the other. Surely it is the part of education, while it is familiarizing us with science, acquainting us with literature, fitting us for the business of living, to cultivate in us the understanding of these values in life which will enable us to find perspective, and to keep everything in its rightful place. "We shall never achieve moral ends by worldly means, nor build the kingdom of righteousness and peace by greed and strife."

In the pages that follow I shall present some of the important events in the life of the University during the last two years.

## **ADMINISTRATIVE EVENTS OF THE BIENNIUM**

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**Institute of Technology, page 24**

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## CENTER FOR CONTINUATION STUDY

In the biennial report for 1932-34 the suggestion was made that the University should give special consideration to the need for the continuous education of adults, and that if possible, a program should be inaugurated that would enable them to keep abreast of new developments in the various fields of learning. It was further suggested that such a program could be best undertaken if there were on the campus a separate building designed especially for the use of adults. During the biennium these suggestions have become realities. The new building is completed, and the courses and conferences will begin in November (1936). A statement setting forth the purposes of the project has been prepared by the director, Professor Harold R. Benjamin. It follows:

**Purposes of the Center.**—The University of Minnesota has established the Center for Continuation Study as a means of extending and improving its services to those citizens who feel a desire and need for continuing their education beyond the formal limits of their secondary, college, or professional schooling.

The Center is designed primarily for the use of men and women who wish to spend relatively short periods of time in serious and intensive study of problems related to their professional, civic, or cultural interests. In general, the studies pursued will be those which the University is especially qualified to direct.

The purposes of the new department are suggested by its name. It is a *center* in which students live and work together under one roof during their period of residence on the campus. It is a *continuation* school in the sense that it is designed to give opportunities for acquiring further education to those who have already received the usual professional, technical, and general instruction in the regular schools and colleges. It is primarily a place for definite *study* rather than for conventions or social gatherings.

The Center is not designed to duplicate the work of other agencies giving instruction to adults. The public schools with their evening classes, the various emergency educational projects financed by the Federal Government, and a vast number of privately operated institutions offer many opportunities to the citizen who wants to repair deficiencies in his schooling or extend his education along general cultural and vocational lines. The University itself, through its extension classes, correspondence study instruction, technical conferences, professional institutes, short courses, summer sessions, public lectures, and dramatic and musical series, gives a wide variety of facilities for continuing education. The new Center will attempt to supplement, not supplant, these various services.

**Work of the Center.**—The Center will operate through a series of schools and institutes, organized and directed by the University, and designed to serve the interests of professional, occupational, civic, and cultural groups. Instructors in the courses will aim to present information accurately, discuss issues impartially, and examine theories critically. Every attempt will be made to avoid the lopsided presentation of evidence and the specious variety of argument commonly associated with propaganda and used for dogmatic purposes.

While groups desiring courses of a professional, technological, or cultural nature are invited to confer with the director of the Center concerning their needs, the University on its own initiative will announce courses from time to time. In every instance the University will engage the faculty, prepare the plan, and assume full and complete responsibility for the conduct of the course.

Each school in the Center will be unique. It will have its own name, its own time schedule, its own curriculum, its own faculty, and its own life. An institute of three days or a school of three weeks or more; a one-day conference or a one-week seminar; a student body of professional leaders in medicine, dentistry, pharmacy, engineering, or education; an institute for editors, social workers, or county agents; an institute on banking, insurance, or legislation; programs for civic club members who wish to study economics, international relations, civil

service, or some aspect of government—these and many other combinations will be possible.

The aim of the Center will be organizational flexibility in the interest of having men and women learn what they need to learn. While the programs in every instance will be organized to serve the needs of the group, the work itself will call for study—serious study—class discussion, seminar work, and, it is hoped in most instances, the preparation of papers.



Center for Continuation Study

## INSTITUTE OF TECHNOLOGY

On October 19, 1935, the Regents approved a set of resolutions creating the Institute of Technology. The history leading to this act extends back many years. In 1919 President Marion L. Burton advocated the creation of an Institute of Technology consisting of the College of Engineering and Architecture, the School of Chemistry, and the School of Mines and Metallurgy, and the Regents of the University voted to correlate the administration of the College of Engineering and Architecture and the School of Chemistry under one administrative head, with the understanding that it would give consideration at some future time to the inclusion of the School of Mines and Metallurgy in the plan. The arguments which were advanced by President Burton for the consolidation and unification of these three schools into one organization are more valid today than they were then. The interests of these three schools are similar; their work is becoming more and more interrelated; they all lie in the general field of technology; their curricula are based on mathematics and physical sciences. It should be possible for students to move freely from one curriculum to another within the group without serious difficulty. The general objectives of the students are similar in many respects and the teachers and supervisors are concerned to a very large extent with related professional fields.

With the expansion of knowledge and its subsequent specialization,

it has become clear to educators and to professional practitioners alike that steps must be taken to bring the various divisions of an educational institution into closer relationship with each other. The smaller the administrative unit, the more restricted the field of learning; the greater the isolation, the greater the intolerance and narrowness of those being trained in it. Departmentalization and college autonomy often prevent the recognition of the broader relationships that should be considered in any training program, and they tend to give one a perverted sense of values.

Gradually the specialists in the various fields of human knowledge are learning that they need the co-operation, assistance, and advice of persons in related fields in the conduct of their researches. They have become convinced that many of the important researches lie in the overlapping areas of fields of learning. They know, too, that engineers, for example, should not be concerned with the engineering specialties alone; they need instruction in economics, in political science, in industrial relations, and perhaps in law; so that new programs for the training of men who expect to enter the various specialties of engineering must be devised.

We do not believe that all of the important things in technology have been accomplished. New problems are constantly arising, new investigations are being promoted, new achievements are being made, the level of training is constantly being raised, and new courses of instruction corresponding to types of service are being introduced into college programs. All in all, it seems that the time has come when the various technological fields should be more concerned with interdepartmental relations and that administrative devices should be set up which will insure interdepartmental and intercollege co-operation. By this means we shall foster graduate work and research in related fields; we shall have greater co-operation in the outlining of teaching programs; we shall multiply the co-operative relationships of the engineering units with the humanities; we shall provide increased co-operation of the technological sciences with industry; and above all we shall improve scholarship and raise standards all along the line. The whole program should tend in the direction of simplification and unification.

**The resolutions.** It was with these general objectives in mind that the Board of Regents approved the following resolutions:

1. There shall be created within the University an Institute of Technology consisting of the College of Engineering and Architecture, the School of Chemistry, and the School of Mines and Metallurgy.

2. The responsible officer of the Institute shall be a Dean. All heads, chairmen, and chiefs of departments, divisions, and other units which may be included in the future, shall be directly responsible to the Dean.

3. The Dean shall have the powers which are usually ascribed to the responsible head of any college or school of the University, that is, he shall have jurisdiction over the budget, appointments, and other administrative matters of direct concern to the organization, management, and administration of the Institute of Technology. He shall have associated with him such assistant deans of the included colleges and schools as may be needed from time to time.

4. There shall be an administrative board which shall consist of assistant deans or directors of the three schools, and one member each from the major departments, divisions, or other units, to be appointed annually by the President, each from two nominees chosen by informal ballot by each department, division, or other unit. No one shall be eligible to serve for more than three years. This board

shall be responsible for administrative matters in the Institute as defined in the regulations of the Board of Regents.

5. The general faculty shall consist of assistant deans, and all the members of the teaching staff above the rank of assistant professor, and in addition the full professors of the departments of Physics, Geology, and Mathematics. The general faculty shall be the policy-making body for the Institute, subject to rules and regulations governing the University as a whole. It shall hold a meeting in April each year and at any other time on the call of the Dean. The faculties of the separate colleges and schools of the Institute shall have meetings to consider matters which pertain to their respective units, but questions of fundamental policy shall be vested in the general faculty of the Institute.

6. The Dean of the College of Engineering and Architecture and the School of Chemistry shall continue to serve as the Dean of the College of Engineering and Architecture but retires from the deanship of the School of Chemistry. (It is clear that in the new Institute there should be a simplification and unification of registration, of vocational guidance, of placement, of industrial contacts, and the like; these should not be carried on separately and independently any longer. For that reason the Dean of the Institute proposes as soon as he has had ample time to study the matter, to ask the Dean of the College of Engineering and Architecture to assist him in the administration of some of these more general functions and to give him an appropriate title.)

7. The assistant deans shall preside over their respective faculties in the absence of the Dean, shall administer the regular business of the school or college and perform such services as may be assigned to them by the Dean, but they will not be held responsible for appointments, budgets, nor curricula changes.

**The administrative head.** Professor Samuel C. Lind, director of the School of Chemistry since 1926, was promoted to the deanship of the new institute beginning November 1, 1935. Dr. Lind came to the University nine years ago from government service in Washington, D.C., where he was associate director of the Fixed Nitrogen Research Laboratory. He holds degrees from Washington and Lee University, Massachusetts Institute of Technology, and the University of Leipzig. For many years he was associated with the United States Bureau of Mines, for which he has been superintendent of the Station for Rare Metals, Golden, Colorado; superintendent of the Reno Station for Rare and Precious Metals, and chief chemist of the Bureau of Mines, 1923-25. In recent years his specialty has been research in the field of radium and radioactivity.

## NEW HYDRAULIC LABORATORY

The construction of a new hydraulic laboratory at the head of St. Anthony Falls, which is "to be used for obtaining experimental data regarding river and other related hydraulic problems," was made possible by agreement with city, state, and federal officials, and also with the co-operation of the St. Anthony Falls Water Power Company. The city contributed for the purpose certain water rights, and property which formerly was used for its East Side pumping station. The area of the site deeded to the University by the city amounted to 6,720 square feet. The St. Anthony Falls Water Power Company has leased to the University for a nominal consideration (one half the annual assessed taxes) and for making experiments periodically on water power developments when space is available, 33,307 square feet of land needed for the laboratory site. The Federal Government has allotted a total of \$184,683.40

for the construction of the laboratory; the contribution of the University toward erection of the structure is \$15,000, to be used for materials and equipment.

The laboratory will stand on a piece of land about one block downstream from the Third Avenue bridge. The main testing laboratory will be 300 feet long and 50 feet wide, of simple reinforced concrete construction. Beneath the floor will be two channels, one for experimental purposes and one a waste channel to carry off water used experimentally. There also will be an upper channel, inside the building. The main channel, 8 feet wide and 6 feet deep, will run the full length of the building. Adjoining the long building will be another, 90 by 40 feet, to be used as a machinery laboratory.

Many hydraulic projects now conducted in the Experimental Engineering Building on the University campus will be transferred to the Hennepin Island laboratory. The new laboratory will be the most important addition to technical experimental equipment on the campus since the Mines Experiment Station and Electrical Engineering buildings were erected more than ten years ago. Professor Lorenz G. Straub will be in charge of the laboratory.

### INCREASED REGISTRATIONS

Full details concerning registrations at the University are found in the report of the registrar on page 143 of this volume. Certain general observations may be made to supplement these statistical data. Hard times influence college enrolments directly. At the outset of a depression students flock to the campus. If the adverse economic conditions continue over a period of years, enrolments tend to drop slightly, as they did in Minnesota during the previous biennium. With an upturn of the business cycle, however, the enrolments again shoot upward. Individuals who found it impossible to enter the University during the worst years of the depression once again find it possible to come to the campus. They take their place beside those who would normally come. The University of Minnesota registered more students in 1935-36 than it ever had in any corresponding period in its history. In 1936-37 its registration will unquestionably attain a still higher level.

Of the students registered in 1935-36 more than twelve hundred were receiving aid from the National Youth Administration. In 1936-37 the number will exceed seventeen hundred, since a special allotment of funds was made to this state because of drouth conditions. The presence of these federally aided students creates new problems, the answers to which are not fully understood. But this is only one aspect of the problem that the mounting registrations have brought. The additional students call for more teachers, more accommodations, and new provisions of various kinds to make the training of so large a body of young people effective. While the state has been very considerate of the needs of the University during the depression years, it has not been able to provide as large an appropriation as the University was receiving several years ago. The load has increased faster than the resources for meeting it.

## INSCRIPTION ON THE CYRUS NORTHROP MEMORIAL AUDITORIUM

Upon the recommendation of a committee of the staff, the Board of Regents at its meeting on May 12, 1936, approved the following inscription to be cut in stone on the façade of the Cyrus Northrop Memorial Auditorium:

The University of Minnesota  
Founded in the Faith That Men Are Ennobled by Understanding  
Dedicated to the Advancement of Learning and the Search for Truth  
Devoted to the Instruction of Youth and the Welfare of the State

## SELECTION OF REGENTS

Until it was settled by a decision of the Minnesota Supreme Court on September 11, 1936, the manner of naming members of the Board of Regents of the University of Minnesota had been in controversy for many years.

The decision of the Supreme Court said that inasmuch as all rights and privileges of the University of Minnesota under the act creating the territory in 1851 were "confirmed in perpetuity" when the state constitution was adopted, the members of the Board of Regents must be elected by the Legislature, inasmuch as that was the procedure specified in the Law of 1851. This becomes, then, the approved method of electing members of the board. The controversy had been over the relative propriety of election by the Legislature or appointment by the governor of the state.

Uncertainty as to the method of selection arose because it had become customary for the governor to appoint members of the board, which practice continued for some fifty years without being challenged.

About ten years ago, when the Commission of Administration and Finance was created, an effort was made to bring large areas of the business control of the University of Minnesota under that body. The University took the case into the courts and won in both the lower and supreme courts. The decision in favor of the University was based on the fact that in the Law of 1851 the Board of Regents had been given complete independence. Attention was called, however, to the fact that under that act, Regents must be elected by the Legislature, not appointed by the governor. Since then, therefore, Regents have been elected, except in occasional instances when divided opinion led the Legislature to default in that function, whereupon the governor made appointments.

The recent case was brought as a "quo warranto" proceeding before the Supreme Court in which the Honorable Ray J. Quinlivan of St. Cloud, a member elected by the Legislature, was asked to show cause why he should hold office. The state's brief held that Regents should be appointed and alleged that Mr. Quinlivan was therefore in office without warrant.

The finding of the court was that members of the Board of Regents should be elected, as specified by the Law of 1851. The decision was

unanimous except for the absence of the Chief Justice, the Honorable John P. Devaney, who was unable to sit when the case was heard.

It is clear from all of the discussions participated in by members of the Legislature at the time the University of Minnesota was made a state institution that they desired that the University should be kept free from politics. These pioneers did not define the qualifications of members of the Board of Regents. They left the way open for the Legislature, as they thought, to elect the ablest men and women of the state to the board. The discussion centering around the establishment and early history of the University shows clearly that the pioneers of the state expected that the Board of Regents would be composed of intelligent, public-spirited citizens, sympathetic with higher education in all of its forms, ready and willing to face every question, and to decide every issue on the basis of facts and in terms of what appears to be sound public policy.

If the University is to be kept free from politics then no one should be chosen for membership on the Board of Regents to represent any particular interest, that is, to represent labor or capital, agriculture or industry, or any particular party or church. No one should be chosen to represent any particular philosophy—a philosophy of conservatism or liberalism, of reaction or radicalism. And above all, no one should be chosen for membership on the Board of Regents who has committed himself in advance to any particular program or policy. Persons chosen to represent something disqualify themselves at the very outset for the most important public trust within the gift of the people of the state.

In recent years regents have been appointed from congressional districts. This means that the choice for each congressional district has been determined largely by a caucus of the members of the Legislature from that district. The founders of the University never contemplated the choice of regents by congressional districts. They expected the regents to be chosen at large. They expected them to be chosen from all of the people of the state. It is therefore important in the interest of public welfare and in the interest of the University itself, that the men and women selected to serve as members of the Board of Regents shall be chosen from the people at large, on the basis of merit, recognized ability, and a desire to have the University serve the public welfare regardless of politics or religion or the ambitions and desires of any pressure group.

### ENGINEERS BOOKSTORE

Upon the recommendation of the Board of Directors of the Engineers Bookstore the Regents in 1936 approved changes in procedure whereby all receipts and expenditures of the bookstore would pass through the university treasury in accordance with the following recommendations:

1. That the cash balance of the Engineers Bookstore now on deposit in the University State Bank be transferred to the University treasury.
2. That securities of the Engineers Bookstore in safety deposit at the Northwestern National Bank, Minneapolis, be transferred to the University to be handled in the same manner as other University securities.
3. That the inventory of supplies and equipment of the Engineers Bookstore be merged with the University inventory.

4. That all future income of the Engineers Bookstore be deposited with the University Bursar in the same manner and under the same rules and regulations as all other University income.

5. That all future expenditures of the Engineers Bookstore be made in accordance with the rules and regulations governing expenditures of the University.

6. That the accounting of the Engineers Bookstore be merged with the accounting of other University departments.

7. That all staff and employee appointments and other staff changes be made in the manner prescribed for any other University staff.

8. That the budget of the Engineers Bookstore be prepared, approved and included in the University budget in the usually prescribed manner.

9. That the Engineers Bookstore Board of Directors be continued as the immediate operating head of the enterprise and bear the same relationship to the University Administration and the Board of Regents as the head of any other University department. It is understood that the appointment of members of the Board is subject to the approval of the President and the Board of Regents.

### MILITARY TRAINING

During the biennium 1932-34 there was much discussion on the campus concerning military training. On June 18, 1934, the Regents voted to discontinue the compulsory feature of military training. The developments since that date are fully described in the report of the Department of Military Science and Tactics on page 350 of this volume.

### RESIDENCE HALL POLICY

It is the desire of the administration that the residence hall facilities of the University should be used to their fullest extent so that the advantages that come from life in the halls may be as widespread as possible. There is no question that the residence halls provide admirable living conditions. It is equally obvious that there are gains from contact between students and younger members of the instructional staff. With these points in mind, as well as economic considerations, the following policy became effective beginning with the academic year 1934-35:

Recipients of income from funds administered by the University, who are also registered students in either the Graduate School or undergraduate schools and colleges, will be expected to reside in University residence halls in all cases where the income is \$50 or more per quarter. No exemptions from this requirement will be made except after consideration of each case by the President's Office. It is understood as a condition of acceptance of appointment to the regular or miscellaneous payroll that appointees agree to the residence rule unless specifically exempt.

This policy was continued during 1935-36 with slight modifications to permit easier administration. Foremost among these was the setting of a college quota; the responsibility for meeting this was vested with the deans.

### ADMINISTRATIVE CHANGES

1. The departments of Greek and Latin were merged into a Department of Classics, effective July 1, 1935.

2. New curricula based chiefly upon majors in physics and chemistry leading to the degree of bachelor of physics, were recommended by

the faculties of the College of Science, Literature, and the Arts and the Institute of Technology, and approved by the Regents on June 2, 1936.

3. The curriculum in dentistry, on the recommendation of the faculty of the School of Dentistry, was increased as follows: that beginning in the fall of 1937, students registering in the School of Dentistry be offered the option of a three-year or four-year course in dentistry, the combined number of students to be accepted into the two courses to be limited to the facilities of the medical and dental departments; and that in the fall of 1938, all students be registered for the four-year course. This was approved by the Regents on April 22, 1936.

4. The Department of Sociology was authorized by the Regents to grant a certificate of professional proficiency in social work to students who complete the five-year course in social work.

5. A graduate degree in business administration will be offered beginning in 1936-37. This degree will be awarded by the Graduate School.

6. The Regents approved the establishment of a five-year course in architecture and voted to abandon the course in architectural engineering.

7. Resolutions creating the Institute of Technology were passed by the Board of Regents on October 19, 1935. The institute is more fully described on page 24 of this report.

## UNIVERSITY LIFE

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## NAMES FOR UNITS OF PIONEER HALL

Pioneer Hall, residence for men, is so constructed that each of the two major divisions is further subdivided into independent units with separate entrances. When the first section of the hall was completed, each of the subunits was named in honor of a Minnesota pioneer and appropriately marked. With the completion of the second section there was opportunity to give similar recognition to another group of pioneers. A special committee, appointed by the president, met during the biennium and made recommendations which were subsequently accepted by the Board of Regents. The names selected by this committee, and a brief summary of each individual's contribution to the history of Minnesota, follow:

### CHRISTOPHER COLUMBUS ANDREWS

#### Pioneer in Forestry

Christopher Columbus Andrews established a law practice in St. Cloud in 1857. He was elected to the state senate in 1859 and during the Civil War he attained the rank of major general. In 1869 he was appointed as minister to Sweden and Norway, a position that he held until 1877, and from 1882 to 1885 he served as consul general to Brazil. He was a pioneer in advocating the application of European forestry principles to American conditions, and he was influential in the movement for establishing forest reserves in Minnesota. He served as chief warden and forest commissioner of the state from 1895 to 1911 and as secretary of the forestry board from 1911 until his death in 1922.

### IGNATIUS DONNELLY

#### Pioneer in Political Thought

Ignatius Donnelly came to Minnesota in 1857, and established himself in a spacious home at Nininger, near Hastings. For many years thereafter he was conspicuous in Minnesota politics. He was lieutenant governor, a member of the state legislature, a member of Congress from Minnesota, and a national leader of Third Party movements. He is also known for his literary activities. His numerous books, most of which are concerned with unusual theories, attracted wide attention. As a lecturer he attained national fame. It was Dr. Folwell's judgment that "Minnesota has possessed no other public speaker the equal of Ignatius Donnelly in captivating and enchanting audiences."

### JAMES MADISON GOODHUE

#### Pioneer in Journalism

James Madison Goodhue established the first newspaper in Minnesota, the *Minnesota Pioneer*, in April, 1849. He devoted his amazing energy and brilliant literary talents primarily to the welfare of the infant territory. His paper, which had a wide circulation, carried glowing descriptions of Minnesota and brought many new settlers to the territory. His vigorous, witty, and pungent editorials suggested practical improvements for St. Paul and Minnesota and pointed out evils to be avoided. Although his career was brief—he died in 1852—his leadership left an indelible mark on Minnesota.

### PAUL HJELM-HANSEN

#### Pioneer in Norwegian Settlement

Paul Hjelm-Hansen, a Norwegian-American newspaper man, was appointed as an agent of the Minnesota State Board of Immigration in 1869. In this capacity he made a journey through the Red River Valley in an ox-drawn wagon.

His careful observations of conditions in the valley were described in a series of letters published in newspapers both in America and Norway. He praised the fertility of the valley and urged Norwegian immigrants to settle there. Thousands of his countrymen seem to have been influenced by his advertising of the Red River Valley.

WILLIAM WORRALL MAYO

Pioneer in Medicine

William Worrall Mayo came to St. Paul in 1855 and soon afterward removed to Le Sueur and established a medical practice. During the Sioux outbreak of 1862 he went as surgeon with relief forces to New Ulm, and the following year he was appointed provost surgeon for southern Minnesota, with headquarters at Rochester. He soon became the leading physician and surgeon of that region. He was one of the earliest physicians in the West to use the microscope for diagnostic work. When a violent tornado struck Rochester in 1883, Mayo was placed in charge of an emergency hospital for the injured and was assisted by the Sisters of St. Francis. A few years later the sisters opened a permanent hospital with Mayo as medical superintendent. This still stands as the nucleus of the large St. Mary's Hospital. Mayo was one of the founders of the Minnesota State Medical Association in 1868 and its president in 1873. He was mayor of Rochester several times and a state senator twice.

MARTIN McLEOD

Pioneer in Education

Martin McLeod, who had been a major in James Dickson's filibustering expedition, arrived at Fort Snelling in April, 1837, after an arduous midwinter journey from the Red River colony, where Dickson's army had disbanded. For two decades thereafter he was engaged in fur trading in the Minnesota Valley. He attained great influence over the Indians, especially the Upper Sioux, and it was largely because of his friendly relations with them that the treaties of 1851 were favorable to traders. McLeod was a member of the territorial council from 1849 to 1853. His most important legislative service was performed as author of the bill that laid the foundations for Minnesota's school system. He did much to promote settlement in Minnesota. He wrote letters to Canadian newspapers describing the country and bought and improved property in various places. He was one of the founders of Glencoe, in the county that bears his name.

LEONIDAS MERRITT

Pioneer in Iron Mining

Leonidas Merritt, whose family settled near the site of Duluth in 1856, with his brothers discovered in the late eighties the iron ore deposits of the Mesabi Range. Working as timber cruisers in 1887, the brothers mapped the ore deposits; later they filed claims on the lands mapped, and in 1890 they organized the Mountain Iron Company to exploit the range. In that year high-grade ore was discovered in one of their test pits. In the development of the mines the Merritts obtained financial assistance from John D. Rockefeller. Eventually they lost control of the mining and transportation enterprises they had initiated.

CADWALLADER C. WASHBURN

Pioneer in Flour Milling

Cadwallader C. Washburn became interested in the development of the Falls of St. Anthony as early as 1856, when he was one of the incorporators of the Minneapolis Water Power Company. His first flour mill at this place was erected in 1866. This mill, known as B Mill, was the scene of Washburn's first experiments with milling processes. The A Mill, erected in 1873-74, was destroyed in an explosion and fire in May, 1878. Following this catastrophe Washburn employed William de la Barre, a milling engineer, to install in the Minneapolis mills devices which revolutionized the milling industry.

## HONORARY DEGREES

At the June commencement exercises in 1935 the University, upon recommendation of the faculty, conferred honorary degrees upon Dr. William J. Mayo and Dr. Charles H. Mayo, of Rochester, Minnesota, and upon Mr. Elbert L. Carpenter of Minneapolis. In 1936 degrees were conferred upon Sister Antonia McHugh, president of the College of St. Catherine, and Miss Ada L. Comstock, president of Radcliffe College. Only four honorary degrees had previously been granted by the University of Minnesota. The citations read by President Coffman in conferring the degrees follow:

Dr. William Mayo and Dr. Charles Mayo, jointly presented:

Honored and respected wherever thought is given to medical science, recognized as outstanding figures in an era of unparalleled scientific advancement, founders of a great institution for medical research, unceasing advocates in behalf of better education, known to the world and neighbors alike as Brothers Charles and William, inseparable; upon them, Charles Horace Mayo and William James Mayo, the Regents of the University of Minnesota on recommendation of the faculties, confer the degree of doctor of laws, *honoris causa*, with all of the rights and privileges belonging to that degree.

Mr. Elbert L. Carpenter:

Because of his devotion to all that is fine in music, and because his unceasing efforts have led to a greater appreciation for and love of music in his community, in the state, and in the nation, the Regents of the University of Minnesota, on recommendation of the faculties, confer upon Elbert Lawrence Carpenter the degree of doctor of music, *honoris causa*, with all of the rights and privileges belonging to that degree.

Sister Antonia McHugh:

Unfailing in courage, vision and statesmanship, tireless in advancing higher education for women, creative in educational thought, self-forgetting exemplar of unselfish motives and high ideals in scholarship, character, and Christian faith, the builder of a woman's college that has become a distinct force in the Northwest, honored and beloved in Minnesota and throughout the nation; because of what she is and has done, the Regents of the University of Minnesota, upon recommendation of the faculties, confer upon Sister Antonia McHugh the degree of doctor of laws, *honoris causa*, with all the rights and privileges pertaining to that degree, and inscribe her name upon the roll of the alumnae of the University of Minnesota.

Miss Ada Comstock:

A daughter of Minnesota and a former member of both the student body and the staff of the University, she has gone forth to extend her influence beyond the bounds of the Commonwealth. Constructive and unselfish in serving the cause of education, constantly widening the intellectual and cultural opportunities for women, vigorously upholding the democratic principles upon which this nation was founded, and tireless in promoting international peace and good-will, she has brought honor and distinction to her native state. For these reasons the University of Minnesota, upon the recommendation of the faculties, and by the authority of the Board of Regents, confers upon Ada L. Comstock the degree of doctor of laws, *honoris causa*, with all the rights and privileges pertaining to that degree, and inscribes her name in perpetuity upon the roll of the alumnae of the University of Minnesota.

## DEVELOPMENTS IN THE FINE ARTS

During the past two years the University has devoted special attention to some projects in the field of the fine arts. The University Art Gallery, located on the top floor of Northrop Memorial Auditorium, has been placed in charge of a full-time curator, assisted by federal students, and exhibitions have been continuously on display. Nearly 80,000 people visited the gallery in 1935-36.

A valuable gift of prints and books led to the opening of a special print room, also in Northrop Memorial Auditorium, which is used primarily by students in fine arts.

The University also has purchased as the nucleus of a small collection of American art a few originals by contemporary artists. These will be exhibited in the gallery and hung at points on the campus where students will have frequent contact with them. Utilizing these acquisitions, the University in 1935-36 began one of its most interesting experiments in art appreciation. The ordinary art gallery is designed for displaying many pictures simultaneously, but it is not adapted to more intimate enjoyment of works of art. The beauty of a single picture can make its best impression only when the conditions for seeing it are ideal.

Following the logic of this idea, a room in the Auditorium was set aside as a students' art room. It was decorated in simple but excellent taste, in modern tone. The room in its furnishings is a fine example of interior decoration. All of the furnishings, however, have been arranged and planned to focus upon a single art object which the room will contain. In this Fine Arts Room, with a few well-selected books at hand, students may enjoy spending brief periods of time. The room in its conception parallels closely the browsing reading rooms that have been established in libraries—such as the Arthur Upton Room at the University of Minnesota.

## PROGRESS IN VISUAL EDUCATION

When, in 1932, the General College was inaugurated at the University, the various visual aids (slides, motion pictures, and other types of illustrative material) were considered necessary and efficient tools, often helpful and frequently indispensable to the teacher. To this end there was set up a visual education program designed for, and correlated with, the various courses of instruction in the General College. A start was made to collect and classify the sources of all such available visual aids; a minimum of suitable projection equipment was acquired; and with a staff of three (one in charge and two part-time electrical engineering students as assistants) a program of servicing General College classes with illustrative materials desired by instructors was experimentally launched. Such a service naturally included more than mere classroom projection; it was necessary to work with the teacher and to understand the needs of his particular course, discovering for him available material, advising the best method of use, and above all obtaining for his actual inspection as many as possible of these visual aids. Only by such practical means was it found possible to attain suitability of subject material and technical adequacy of presentation. Information

thus gained was recorded and filed for reference, and the best material thus previewed was actually employed in the classroom.

**Expansion of the service.** The use of this new and specialized service was found of such real value in General College teaching that, during the first year, operations of the service rapidly increased and expanded, as indicated by a total of 293 showings of motion pictures, slides, etc. Yet not all of these 293 bookings were for the General College alone; the value of illustrative supplements to teaching was recognized by faculty members in other colleges and departments on the campus; and the demand for visual education service was thus extended and the scope of operation enlarged.

Since then this service has so increased throughout the University that the bookings during the year 1935-36 totaled 1653, the staff numbered 28 (6 on full time, 22 students on part time) and the work expanded to include the centralization of authority of all university-owned visual aids equipment and materials, the responsibility for the care and maintenance of all projection equipment, the storage and handling of university-owned film, the maintenance and operation of all public address systems, the provision not only for projection but also recording services and the production of motion pictures, the operation of a weekly Newsreel Theater, the conducting of a course in Appreciation of Motion Pictures and a Photography Course (both for the General College) and also a course in Visual Aids in Teaching for the College of Education.

The small quarters originally provided on the top floor of Westbrook Hall soon proved inadequate, and in the summer of 1935 a large basement room in the same building was set aside, remodeled, and subdivided to provide adequate and efficient facilities including fireproof, temperature, and humidity controlled vaults for both nitrate and safety film, equipment storage space, transportation facilities, shipping room, cutting room for the inspection and repair of film, shop space for the maintenance and repair of special equipment, provision for animation and title work, two dark rooms for still-film laboratory and instruction purposes, office space, recording booth, fireproof projection booth, and sound insulated screening room which could be used also for sound recording and picture work.

**The Newsreel Theater.** The operation of the General College Newsreel Theater for educational rather than entertainment purposes has proved a successful and unique experiment. Starting in the first year in the Music Building as a series of free showings subsidized by the General College, the programs proved immediately useful to, and popular with, faculty and students, and upon the installation of the new wide-range sound equipment in Northrop Memorial Auditorium the programs were moved to this larger hall, increased in number, and an individual five-cent admission charge made. During five class hours of each Wednesday afternoon for thirty weeks of the regular school year and during three class hours each Friday for ten weeks of the Summer Session, programs of current news and a selection of the best educational short subjects and travelogs are booked regularly from Paramount, Fox, MGM, RKO, Universal, March of Time, and others, so that the Newsreel Theater has now taken a position as a regular university function of not only general educational interest but correlated with many courses

of instruction. Operating costs are defrayed by the large number of small admission fees. During the year 1935-36 the total attendance was 63,944.

During each of three past years there was also presented in the hall of the Music Building a series of foreign language films. Selected and approved by a faculty committee, French talking films and an occasional German film have been shown and found of value not only to language departments but to many of the general faculty and student body.

**Service enterprise activities.** The extension of the scope of visual education service enterprise activities set up to centralize, maintain, and operate all university-owned visual aids material and projection equipment has been naturally linked with that of public address systems. Thus the amplifying units of portable sound projectors have been frequently used as temporary public address systems to solve special problems of acoustics in certain classrooms. Similarly, the amplification system of the sound projectors in Northrop Memorial Auditorium has been in operation at convocations and nearly all large university gatherings and functions in that hall. The visual education service has also supervised the installation of other permanent public address outfits and is now authorized to maintain and operate all such equipment on the campus. More convenient co-operation is thus also provided in connection with certain broadcasts from the university radio station WLB.

**Course in Appreciation.** Supervised by the Visual Education staff and conducted by it, a General College course in the Appreciation of Motion Pictures has been offered. Designed to indicate the strong social influence of the movies, the course is profusely illustrated by numerous examples and selections of good films and by contrast of good and bad films, thus offering a basis for analysis available in no other way. Illustrated also are explanations of how movies are made, the technicalities of sound photography, direction, cutting, scenario writing, animated cartoons, color, recent developments of production methods, the organization of the industry, methods of film distribution and exhibition, and also the history of this relatively young but significant social force and popular art form. The showing of a wide selection of films from both foreign and domestic sources and from the Museum of Modern Art's film archives has offered not only to students in the course but, on certain occasions, to other students and faculty members and to friends of the University in the Twin Cities an unusual opportunity to see valuable films. To supplement this series of profuse illustrations a special textbook of selected articles and excerpts on all phases of the motion picture art and industry has been prepared, making the course an unusually complete one.

**An experimental course.** To fulfill a definite but unsatisfied academic need of some years standing, an experimental course in Visual Aids in Teaching was conducted by the visual education service for the College of Education in the summer of 1936. The course was designed as an extremely practical laboratory one, to train students in the use of simple projected visual aids including opaque and slide lantern, microslide, film strip, 16 mm. silent and sound motion pictures, and to provide information on the kinds of equipment and materials available for school

use on elementary, secondary, and college levels. The laboratory was set up in the largest classroom of Wesbrook Hall. The companies that manufacture visual aids equipment loaned to the University for this purpose over seven thousand dollars worth of new demonstration projection equipment. The course was conducted with consistent and practical visual instruction methods. The students in the course (who ranged from teachers of elementary pupils to superintendents of school systems) received practical advice, demonstrations, and individual instruction and practice in the care and operation of visual aids equipment. In consequence, the value of the course was established and its large registration explained.

**Film production.** The production of educational films—a complicated and time-consuming business in itself, but a basic necessity for any important and vital visual education program—has steadily been continued and improved throughout the year. More conveniently adapted equipment and accessories, more training and experience for production assistants have effected a more efficient production unit. The production schedule has thus far included a variety of films (some in 35 mm., some 16 mm., some silent, some sound, some track, some disc) for such divergent university needs as: a film for psychology classes treating of feeble-mindedness; a film for the University at large to show the service of the University to students and to the state; a series of sound films for the Speech Clinic to assist students in overcoming speech defects; a film on the activities of the Nursery School; a film on tuberculosis (which has been widely distributed and exhibited both in this country and abroad); a series of films on nursing procedures employed for the past three years by the School of Nursing in its teaching and training; a film for the Department of Physical Education for Women on "Styles and Qualities of the Dance" and on women's sports; a film recording the vitamin deficiencies in animals; a film for the Zoology Department to illustrate varieties of marine animals; a film record of certain important neurological cases in the University of Minnesota Hospitals; and a film for the Board of Health and the Hydraulics Division on "The Contamination of Drinking Water by Back Siphonage."

One branch of production—experimental sound motion pictures of Speech Clinic students—has shown such marked progress that the Speech Department has turned over the recording of their students' voices to visual education service. During the winter and spring quarters of 1935-36 a total of 1,267 individual records was turned out at a reasonable cost to students because of this quantity production. Further experimentation in the field remains to be done, but the Speech Department is fully convinced of the value of enabling students to study their speech habits by this new and efficient method.

## RESEARCH AT THE UNIVERSITY

No survey of researches in progress in the natural and physical sciences can even approach thoroughness since nearly every member of the faculty is devoting some of his time to one or more investigations in search of new knowledge. There are, however, a number of re-

searches that have recently progressed to a point that makes them noteworthy.

The importance of fat in diet has long been under investigation by Professor George O. Burr of the Department of Botany. Experiments on rats have shown that females with too low a fat element in the diet are unable to feed their young satisfactorily. Too little fat in the diet of milch cows greatly reduces their milk and butterfat production. Professor Burr is also working on the stimulation of plant growth by means of artificial lights. He is using neon lights, something not hitherto tried, and is obtaining valuable positive results.

Two Minnesota physicists, Professor John H. Williams and Mr. A. O. Nier have recently produced new substances in experiments with atomic bombardment. Working on boron, Professor Williams produced a rare form of beryllium, not hitherto obtained. Mr. Nier was successful in producing one of three forms of potassium, hitherto known only theoretically. Mr. Nier won a National Research Council fellowship for his work. Professor Williams formerly held such a fellowship.

With Professor C. O. Rosendahl and Mr. A. O. Dahl working on the botanical side and Dr. Ralph V. Ellis considering the medical implications, valuable work has been done on pollens. These experiments look to the greater understanding of hay fever and to the discovery of means to control that ailment.

Problems of wild life in Minnesota are being attacked from at least three angles by University of Minnesota scientists. Professor R. G. Green is continuing the studies in grouse and rabbit diseases, including tularemia, that have attracted so much attention. Professor Samuel C. Eddy is continuing his studies of animal life, including that of fishes, in the several types of Minnesota lakes, and Professor Ralph T. King at University Farm is examining means of preserving good natural conditions for the maintenance of wild life in forest areas. He has paid especial attention to ruffed grouse, Minnesota's commonest upland game bird.

Practical researches in the Engineering Experimental Laboratories have been yielding valuable results and are now entering new fields. The types of motor oils offered in the Twin City market, their behavior, and the likelihood that they will be up to specifications, have been examined and reported on by Professor B. J. Robertson. Professor Frank B. Rowley, director of the laboratory, has recently been making plans for an extensive study of the insulation of passenger and refrigerator cars. In this he expects co-operation from the American Railway Association. A room large enough to house an entire car of either type will probably be constructed in which to carry on this work. It bears a direct relationship to air conditioning.

Following their success in producing alpha cellulose, the raw material of rayon, from Minnesota aspen pulp, scientists working under the Northwest Research Foundation are now turning their attention to North Dakota lignite. If they can produce cheap hydrogen from lignite, the foundation for an important fertilizer industry of vast importance to farmers will have been laid, in the opinion of Professor Lloyd H. Reyerson. Using the hydrogen to produce ammonia, farmers could be

provided with ammonia nitrate and sulphate at costs far below those of the present. Studies of chemical "retting" of flax, not now possible here by natural means because of climate, and in the use of inferior grains to produce fine charcoals, are also to be started.

Minnesota began stratosphere investigations in May, 1936, when Dr. Jean Piccard sent a cellophane balloon into the stratosphere bearing scientific instruments that brought back valuable data. Professor John D. Akerman expects to continue investigations of this type.

On the problem of the Twin City area's water supply, the State Geological Survey has been at work for several years. Recently the findings by Professor George M. Schwartz and his assistants were published in book form. They appear to give conclusive reply to proponents of artesian wells as a source of water for such communities as Minneapolis. The sandstone to contain the water supply exists underground in the region, it was found, but the areas through which water can gain entrance to these sandstone strata are not sufficiently extensive to maintain the supply if the strata were tapped as a source of steady supply. At present the geologists of the state survey, which is a University of Minnesota function, are studying the waters in other parts of Minnesota.

Minnesota scientists also are giving public health officials their cooperation in several respects. Professor Frederic H. Bass is president of the State Board of Health and has been consulting engineer on the mammoth sewer project that is to send Minneapolis sewage under St. Paul to a two-city reduction plant on Pig's Eye Island. In the new hydraulic engineering laboratory that is being constructed on Hennepin Island under the direction of Professor Lorenz G. Straub, studies in the sludge deposition that has been so common under present methods of sewage disposal will be made, as will many other studies with respect to flowage, seepage and erosion at dams, problems of erosion on fields and hillsides, water power problems, and the like.

Corrosion causes colossal losses to industry, public service, railways, city equipment, and agricultural equipment. Two Minnesota scientists, Professor C. A. Mann and Professor Ralph L. Dowdell, are attacking this problem from different angles. Professor Mann, a chemist, is studying the development of inhibitors. Professor Dowdell, metallographer, is examining the behavior of various alloys when subjected to conditions likely to cause corrosion. One of his experiments is being made on burial equipment, and coffins of various metallic compounds have been subjected to burial treatment. Professor Dowdell is also working on magnesium alloys with a view to producing a structural material of strength and lightness. These alloys are nearly as strong as iron, but much more brittle. Investigators are striving for their production in more satisfactory combinations that will permit wider use.

A new type of equipment for use in concentrating iron ore of so low a quality that it has been rejected once at concentrating plants has been developed by E. W. Davis, of the Mines Experiment Station, and is now in use by a mining concern at Cooley, Minnesota. It consists primarily of a furnace which drives off enough oxygen from hematite ore to change it into magnetite ore, which has a slightly different chemical formula. This is done in a shaft type furnace having three zones. The magnetic ore that results is concentrated by established

methods of magnetic concentration and a high grade commercial ore is produced. The Mines Experiment Station is also making progress in its investigations of cast iron pavement. At present the scientists are seeking a surface design that will greatly reduce skidding in wet weather.

In the School of Chemistry important investigations on the atomic structure of various elements are being carried on by Professor George Glockler and others. This type of research, in the field of pure science, often produces results which at a later date are seen to have important practical applications in the stage to which knowledge has then advanced. By means of X-ray these scientists are studying such metals as copper, lead, cadmium, and antimony. Studies of heavy ammonia, of the activation of acetylene gas and measurements of the electron affinity of atoms are being conducted. A paper by Professor George Glockler on "Complex Formation" was presented at Edinburgh in 1936 in a symposium on "The Liquid State" held by the Faraday Society. Studies of crystallization are being conducted by Professor I. M. Kolthoff, who lectured on that subject in June, 1936, at the University of Prague, on the invitation of the Government of Czechoslovakia.

Experiments in the testing of hearing aids manufactured by four of the largest companies are in progress under Professor Henry E. Hartig of the Department of Electrical Engineering, and Dr. Horace Newhart of the Medical School. At present there is little scientific data on which the hard of hearing may base a decision when they plan to purchase such instruments. Problems having to do with slight changes in the acoustic properties of surfaces, caused by painting, are also under investigation by Professor Hartig. Professor James S. Webb is studying variations in the permeability of certain conductors at high frequencies and examining the use of the barrier layer cell as a possible means of absorbing solar energy. A new vacuum tube voltmeter for measuring very short intervals of time is under development in the laboratory of Morris Newman.

At all times a widespread program of scientific research is being carried on in the Agricultural Experiment Station at University Farm and at the Fruit Breeding Farm at Zumbra Heights. Such a new type of wheat as Thatcher, now called the most valuable rust-resistant spring wheat for Minnesota planting, is of inestimable value to the agriculture of this region. Hybrid corn types, to which increasing thousands of Minnesota acres are being planted each year, meet Minnesota conditions far better and produce much larger yields than do ordinary types of corn. Studies in the germ plasm of beef and milk animals are expected to yield highly important results for the betterment of Minnesota herds. New fruit varieties are steadily produced. The apple, Beacon, and the plum, Ember, have been added to a long list of recently developed fruits that includes the Parker pear, Red Lake currant, Chief red raspberry, which promises to rival the nationally famous Minnesota origination, Latham, and many others. Recent experiments have been extended on a small scale to garden flowers. Much attention has been drawn by the recent announcement that sandstone caves beside the Mississippi River provide conditions similar to the famous caves in Roquefort, France, for the ripening of cheese of the type called Roquefort. Some ten thousand pounds of Roquefort-type cheese ripened last year, and this year the quantity may rise to fifty thousand pounds.

## SCIENTIFIC MEETINGS

From time to time the University is able to act as host to national and international scientific and professional associations, and to extend the facilities of the campus to them for their meetings. Such occasions bring to the University distinguished scientists and scholars and provide an opportunity for staff members to meet for discussion with leaders in the various fields of scholarship. During the biennium two distinguished groups met at the University of Minnesota: the American Association for the Advancement of Science, and the American Dairy Science Association.

**The American Association for the Advancement of Science.** The association held its ninety-sixth meeting at the University of Minnesota, June 24-29, 1935, inclusive. On two previous occasions, August, 1883 and December, 1910, the association had met in Minneapolis, in each instance as the guest of the University.

The meetings of the association serve two purposes. In the first place they provide opportunity for exchange of ideas among research workers in the same or similar lines of science, through the presentation of papers and through social intercourse. In the second place they offer the opportunity of taking science to the people through the medium of popular talks by outstanding scientific men. These talks are given on a wide range of scientific subjects, which they treat in a broad way and in language intelligible to all.

Meeting in conjunction with the association were the following societies: American Meteorological Society; American Phytopathological Society; American Society of Agronomy, Corn Belt Section; American Society for Horticultural Science, Great Plains Section; American Society of Plant Physiology; Association of Official Seed Analysts of North America; Dairy Science Association; Genetics Society of America; Minnesota Academy of Science; Minnesota State Medical Association; Society of American Bacteriologists, North Central Branch; and Society for Research on Meteorites.

The total number of members attending the various meetings of the association and the above named societies, exclusive of the Minnesota State Medical Association, exceeded 1,300. The official record showed representatives from twenty-seven states and the District of Columbia, as follows: Arkansas, California, Colorado, Connecticut, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, New Jersey, New York, North Dakota, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Wisconsin, and the District of Columbia. Representatives were also present from Hawaii; Philippine Islands; Canada, including British Columbia, Manitoba, Ontario, and Saskatchewan; Holland, and India.

The general sessions of the association consisted of five evening lectures, a program on the "Dissemination of Science" and a symposium on "Conservation."

The evening lectures were as follows: June 24, "Diseases of the Blood" by Dr. William P. Murphy of the Harvard Medical School, and 1934 Nobel prize winner in physiology and medicine; June 25, "The Importance of Ecology in Tropical Diseases" by Dr. Richard P. Strong

of the Harvard Medical School; June 26, "The Land of Your Possession" by Dr. Isaiah Bowman, president of Johns Hopkins University; June 27, "The Nature of Cosmic Rays" by Dr. William F. G. Swann, director of the Bartol Research Foundation; June 28, "The Scale of the Universe" by Dr. Philip Fox, director of the Adler Planetarium and Astronomical Museum. The lectures were held in the Cyrus Northrop Memorial Auditorium.

The general session on "Dissemination of Science" centered about four topics: (1) publications of papers that cannot now secure prompt and complete publication; (2) means for making available "out of print" journal articles; (3) bibliographical service that would classify and index all past and current scientific literature so as to make it available to all scientific workers; and (4) development of microphotographic and other mechanisms to be used in the above services.

The Symposium on Conservation, jointly sponsored by the University and the A.A.A.S. was held in the Cyrus Northrop Auditorium and was attended by about fifteen hundred persons. The two principal addresses were "Mineral Conservation," by Dr. C. K. Leith, chairman of the Department of Geology at the University of Wisconsin and vice-chairman of the Planning Committee for Mineral Policy of the National Resources Board, and "National Planning," by Dr. Charles E. Merriam, chairman of the Department of Political Science at the University of Chicago and member of the National Resources Board.

In addition to the general gatherings the various sections of the association and the affiliated societies held numerous sessions, demonstrations, and field trips. On June 27, the Minnesota State Medical Association joined Section N of the American Association and held a joint meeting at Rochester as guests of the Mayo Foundation.

Many social gatherings of various groups were held during the week. The chief of these was an informal reception tendered the officers and members of the association by President and Mrs. Coffman on Thursday evening, June 27, in the lobby of the Cyrus Northrop Memorial Auditorium.

A more extensive and detailed account of the meeting may be found in *Science*, 82:71, 1935.

**American Dairy Science Association.** Thirty-six states, the District of Columbia, Australia, and Canada were represented by the 479 persons who attended the thirtieth annual convention of the American Dairy Science Association, June 24, 25, 26, and 27, 1935, which met on the University Farm campus in St. Paul with the University of Minnesota Division of Dairy Husbandry as host. Professor L. S. Palmer was chairman of the program committee and Professor W. B. Combs headed the committee on general arrangements.

The program was presented in four sections: manufacturing, production, extension, and instruction, with the following from the University of Minnesota presenting papers: O. J. Hill and L. S. Palmer, C. L. Cole, Milton E. Powell, A. M. Field, and H. R. Searles. Professor H. K. Hayes led a symposium on germ plasm improvement.

At a complimentary dinner given by the Land O'Lakes Creameries, Minneapolis, the honor guest was T. L. Haecker, former chief of the

University of Minnesota Division of Dairy Husbandry, a pioneer in the co-operative creamery movement in Minnesota and one of the early investigators of the nutritional requirements of farm animals whose feeding standards gained him world-wide recognition.

At the association's annual banquet Professor Martin Mortensen of Iowa State College was presented the American Dairy Science Association's scroll as a testimonial of appreciation for his many years of outstanding work as a teacher and scientist.

## AGRICULTURAL EXPERIMENT STATION ANNIVERSARY

In observance of the fiftieth anniversary of its founding, the Agricultural Experiment Station of the University sponsored a semicentennial program June 14 and 15, 1935. This program reviewed the station's history, summed up its contributions to agriculture, and considered future problems demanding attention. The celebration was made the occasion for public recognition of the services of Dr. Andrew Boss, vice-director, who had been continuously in the service of the institution since his appointment as farm foreman in May, 1891. Rising steadily in service and rank, he became vice-director in 1917 and was retired July 1, 1936.

Another feature of the program was the presentation of a memorial plaque honoring Dr. C. H. Eckles whose service as chief of the Division of Dairy Husbandry ended with his death on February 13, 1933.

Experiment Station Bulletin 319, an 80-page publication outlining the history of the station and reviewing by divisions its contributions and research efforts, was published in connection with the anniversary celebration.

An impressive photographic exhibit was prepared especially for the semicentennial and is now a part of the permanent exhibit collection for the Experiment Station. This consists of about seventy mounted photographs, 30 by 40 inches each, including pictures of laboratories and plots at both the central and branch stations, a series of some fifty illustrations depicting outstanding achievements and current research of the several divisions, and a photo display tracing the technological development of Minnesota's agriculture from pioneer days up to the present. Tours and visits to the plots and laboratories of the station and its branches were conducted for visitors. Speakers included representatives from government agricultural agencies of the United States and Canada, from other state experiment stations, and from leading farm publications and farm organizations, as well as past and present members of the Minnesota station staff.

## CONVOCATIONS

On each Thursday morning throughout the academic year classes are suspended at 11:30, at which hour the all-university convocations exercises are held. These programs are regularly broadcast over the

university radio station, WLB. The speakers during the biennium are listed below:

## 1934-35

- July 26: Summer Session commencement exercises Jerome Davis, Gilbert L. Stark  
Chair of Practical Philanthropy, Yale Divinity School, "Creative Pioneering"
- October 4: Opening convocation: Lotus D. Coffman, President of the University,  
"Address of Welcome"
- October 11: The Honorable Ruth Bryan Owen, United States Ambassador to  
Denmark, "This Business of Diplomacy"
- October 18: The Reverend Thomas E. Cullen, Pastor, St. Stephen's Church, Min-  
neapolis, "Religion and Welfare Recovery"
- October 25: Vera Brittain, Writer and Lecturer, "How War Affects Women"
- November 1: Drew Pearson, Newspaper Correspondent and Lecturer, "Behind  
the Scenes with the New Deal"
- November 8: Thornton Wilder, Author, "The Motion Pictures As an Art Form"
- November 15: Dorothy Thompson (Mrs. Sinclair Lewis), Journalist, "European  
Youth Demands a Different World"
- November 22: Christopher Morley, Author, "Fifty Golden Florins"
- November 27: Student assembly for football awards: Frank McCormick, Athletic  
Director, "Athletics at Minnesota"; Bernie Bierman, Head Football Coach,  
"Review of Season"; Guy Stanton Ford, Dean of the Graduate School,  
"Awarding of M's"
- December 20: Fall quarter commencement exercises: Arthur J. Todd, Professor  
of Sociology, Northwestern University, "The Rôle of an Educated Man in an  
Era of Social Changes"
- January 10: Selma Ekrem, Author and Lecturer, "Turkish Women, Yesterday  
and Today"
- January 17: George E. Vincent, President of the University of Minnesota, 1911-  
1917, "A Scientific Adventure"
- January 24: Nicholas Roosevelt, Writer (formerly United States Minister to  
Hungary and Vice-Governor of the Philippine Islands), "The Dangers of  
Economic Nationalism"
- January 31: James Weldon Johnson, Professor of Creative Literature, Fisk Uni-  
versity, "The Negro's Cultural Contribution to America"
- February 7: John Strachey, Author and Former Member of British Parliament,  
"America's Place in World Affairs"
- February 14: The Honorable Henry A. Wallace, Secretary of Agriculture, "Liberty  
and Security"
- February 21: Thomas Craven, Author and Critic, "Modern Art"
- February 28: The Reverend Harold L. Bowman, Pastor, First Presbyterian  
Church, Chicago, "Scientists and Crusaders"
- March 7: Alexander Woolcott, Journalist, "The Invisible Newspaper"
- March 21: Winter quarter commencement exercises: Thomas V. Smith, Professor  
of Philosophy, University of Chicago, "Telescopes, Microscopes, and Politics"
- April 4: Colonel Ralph Heyward Isham, "The Romance of the Boswell Papers"
- April 11: Dudley Crafts Watson, Extension Lecturer, Art Institute of Chicago,  
"Where Is Modern Art Leading Us?"
- April 18: Quincy Howe, Editor, *The Living Age*, "Can Britain Keep the Peace?"
- April 25: Harrison Forman, Explorer and Author, "Tibet, Land of Magic and  
Mystery"

- May 2: Rabbi Israel Goldstein, Congregation B'nai Jeshurun, New York City, "Organized Religion and Social Justice".
- May 16: Cap and Gown Day convocation: Torvald D. Eberhardt, President of the All-University Senior Class, "Presentation of the Class of 1935"; President Lotus D. Coffman, "Response"
- June 16: Baccalaureate service: The Reverend Samuel A. Eliot, Minister, Arlington Street Church, Boston, "The Untraveled Way"
- June 17: Commencement exercises, Stadium: President Lotus D. Coffman, "Charge to the Class"
- July 25: Summer Session commencement exercises: John Ward Studebaker, United States Commissioner of Education, "Liberalism and Adult Civic Education"

## 1935-36

- October 3: Opening convocation: Lotus D. Coffman, President of the University, "Address of Welcome"
- October 10: Langston Hughes, Poet and Novelist, "Poems of Negro Life"
- October 17: Edward J. O'Brien, Author and Literary Critic, "Literary Fads and Fancies"
- October 24: Dr. Morris Fishbein, Editor, *Journal of the American Medical Association*, "Food Fads and Follies"
- October 31: Harold G. Moulton, President, The Brookings Institution, Washington, D.C., "The Distribution of National Income and Economic Progress"
- November 7: The Reverend Bernard R. Hubbard (the Glacier Priest), "A Voyage into the Ice Inferno"
- November 11: Armistice Day convocation: Dr. Asgier Asgierson, Minister of Education, Iceland, "Peace and Union"
- November 21: George H. Nettleton, Professor of English, Yale University, "Mark Twain and His Reading Public"
- November 26: Student assembly for football awards: Frank McCormick, Athletic Director, "Athletics at Minnesota"; Bernie Bierman, Head Football Coach, "Review of the Season"; John L. Griffith, Athletic Commissioner, "Big Ten Intercollegiate Conference"; Guy Stanton Ford, Dean of the Graduate School, "Awarding of M's"
- December 5: William M. Milliken, Director, Cleveland Museum of Art; "Art in Every Day Life"
- December 12: Marie Bentivoglio, Australian Geographer, "Italy Today"
- December 19: Fall quarter commencement exercises: W. Hamilton Fyfe, Principal and Vice-Chancellor, Queen's University, "Idols and Ideals in Education"
- January 9: Captain Bruce Bairnsfather, Cartoonist, "Laughing through Europe with 'Old Bill'"
- January 16: Maud Scheerer, Dramatic Reader, "Winterset"
- January 30: The Reverend Ralph W. Sockman, Pastor of Christ Church, New York City, "Machine Age Morals"
- February 6: Sarah Wambaugh, "Adventures in Diplomacy"
- February 13: Dr. Frankwood E. Williams, Psychiatrist, "Can Russia Change Human Nature?"
- February 20: Glenn Frank, President of the University of Wisconsin, "The University Idea in the Life of the Time with Special Reference to State Universities"
- February 27: J. Middleton Murry, English Author, Lecturer, and Literary Critic, "The Art of Enjoying Life"

- March 5: George Soule, Editor of the *New Republic*, "Freedom in a New Order"
- March 12: Grover Clark, Editor and Educator, "Currents of Conflict in the Pacific"
- March 19: Professor W. Riddet, Massey Agriculture College, Palmerston, New Zealand, "Research and Education"
- April 2: Dr. Howard W. Haggard, Educator and Author, "The Pageant of Medicine"
- April 16: Walter Millis, Journalist, "The Road to War"
- April 23: Colonel Ralph Heyward Isham, "Romance of Lawrence of Arabia"
- April 30: Reinald Werrenrath, Baritone, "American Song"; Carl Linner, Accompanist
- May 7: Geoffrey Crowther, Economist and Journalist, "Britain's Recovery without a New Deal"
- May 14: Cap and Gown Day convocation: Lawrence E. Meyer, President of the All-University Senior Class, "Presentation of the Class of 1936"; President Lotus D. Coffman, "Response"
- June 14: Baccalaureate service: The Reverend Charles N. Pace, President of Hamline University, "The Measurement of Life"
- June 15: Commencement exercises, Stadium: Ada L. Comstock, President of Radcliffe College, Address; President Lotus D. Coffman, "Charge to the Class"

### SPECIAL OCCASIONS

**Court of Honor.** In 1933 the Minneapolis Civic and Commerce Association, the Junior Chamber of Commerce, and the University Contact Committee inaugurated a "court of honor" in recognition of the honor graduates of the University. The students are guests of these associations at a dinner, following which appropriate exercises are held. There were 150 honor students of the class of 1935 at the ceremonies held on June 6, 1935; and 142 students from the class of 1936, at the banquet on June 4, 1936.

**Faculty dinner.** The custom of holding one general faculty dinner each year was revived in 1933-34. The dinner was held on January 31 in the ballroom of the Minnesota Union, with an attendance of 540. Dean Malcolm M. Willey discussed "Federal Aid for College Students," Professor Henry Rottschaefter explained the operation of the State Income Tax Law, and President L. D. Coffman discussed matters pertinent to the welfare of the University.

Another faculty dinner was held December 11, 1935. President Coffman discussed the following topics: the university program for adult education; potential increases in income to keep pace with the increasing enrolment; the effect upon the University of the imminent retirement of those 85 members of the faculty who are now sixty years of age or over; the conflict of laws which has given rise to the suit over the power to appoint regents of the University; student self-government and university responsibility. Short talks were given by Dean Samuel C. Lind on "The Future of the New Institute of Technology"; Professor J. N. Douglas Bush, "A Foot Note on Education"; the university comptroller, William T. Middlebrook, "The University Pension Plan." There were 578 reservations for the dinner.

**Legislative visit.** On March 12, 1935, the State Legislature visited the University during the afternoon and evening. A dinner

was held at six o'clock in the Union, followed by a talk by President L. D. Coffman and a program of moving pictures illustrating university instruction in certain fields.

### SPECIAL UNIVERSITY LECTURES

The intellectual life of the campus is stimulated each year by the presence of distinguished men and women who are invited by the University to address various groups of both faculty and students. Some of these appear before the convocation audiences, where the discussions are always of a general nature. Others, speaking on specialized topics, meet with groups at other hours. The variety of interests represented in these special lectures is indicated by the following list of speakers:

#### 1934-35

##### FALL QUARTER

- November 12: Egmont Arens, Industrial Designer  
 November 14: Dr. A. E. Osterberg, Minnesota Division of the American Chemical Society  
 November 15: James Rorty, Author  
 December 4: Joel I. Connolly, Chicago Board of Health  
 December 5: Muriel Lester, East London Social Worker  
 December 13: Dr. Ralph M. Waters, Wisconsin General Hospital, Madison, Wisconsin  
 December 13: Lucien Koch, Director of Commonwealth College, Mena, Arkansas

##### WINTER QUARTER

- January 14: Walter D. Teague, Industrial Designer, New York  
 January 17: W. I. Myers, Governor, Farm Credit Administration  
 January 24: J. G. Tripp, Mississippi River Navigation Development  
 January 26: Dr. D. A. Stewart, Superintendent of the Manitoba Sanitarium, University of Manitoba  
 January 28: Robert O'Brien, Chairman of the United States Tariff Commission  
 January 29: Floyd B. Olson, Governor of the State of Minnesota  
 January 30: W. C. Fernelius, Professor of Chemistry, Ohio State University  
 February 9: Dr. T. B. Magath, Associate Professor of Pathology and Parasitology, Mayo Foundation  
 February 11: Dr. Braid White, Director of the Acoustic Research of the American Steel and Wire Company  
 February 19: Dr. E. C. Cutler, Moseley Professor of Surgery, Harvard University  
 February 20: Ray Bowden, NRA Code Administrator  
 March 6: Dr. M. S. Kharasch, Professor of Organic Chemistry, University of Chicago  
 March 9: Dr. H. E. Essex, Assistant Professor of Physiology, Mayo Foundation  
 March 13: Professor J. R. Katz, University of Amsterdam, Holland  
 March 18: John Howalt, National President of the American Society of Heating and Ventilating Engineers  
 March 26: Duncan Marshall, Minister of Agriculture for Ontario, Canada

## SPRING QUARTER

- April 5: Dr. G. Von Anrep, Professor of Physiology, University of Cairo, Egypt  
 April 12: Dr. Edgar Fisher, Former Member of Roberts College, Istanbul  
 April 13: U. G. Purssell, Former Head of the Weather Bureau, Minneapolis  
 April 15: Dr. Royal N. Chapman, University of Hawaii  
 April 30: Dr. Leverett S. Lyon, Executive Vice-President, Brookings Institution, Washington, D.C.  
 May 7, 8: Dr. H. H. Newman, Professor of Zoology and Embryology, University of Chicago  
 May 23: Dr. P. A. H. Direc, University of Cambridge, England

1935-36

## FALL QUARTER

- October 12: Mary Beard, Associate Director, International Health Division, Rockefeller Foundation  
 October 25: Kewal Motwani, India  
 October 28: Dr. H. B. Lewis, Professor of Physiological Chemistry, University of Michigan  
 November 6: The Oxford Debaters, Oxford, England  
 November 11: Charles W. Morris, Associate Professor of Philosophy, University of Chicago  
 November 12: Homer P. Rainey, President of the American Youth Commission, Washington, D.C.  
 November 14: Ralph J. Flanders, National President of the American Society of Mechanical Engineers  
 November 18, 19: Carl C. Brigham, Professor of Psychology, Princeton University and Chairman of the College Entrance Examination Board  
 November 18, 19: J. McKellar Stewart, Hughes Professor of Philosophy, University of Adelaide, South Australia  
 November 21: Melville J. Herskovits, Professor of Anthropology, Northwestern University

## WINTER QUARTER

- January 13: Ruth Reeves, Representative of Carnegie Corporation of New York  
 January 13: Dr. F. U. Rice, Professor of Physiological Chemistry, Johns Hopkins University  
 January 13: Maud Scheerer, Dramatic Reader  
 January 13, 14: C. W. Hendel, Professor of Philosophy and Head of the Department of Philosophy, McGill University, Montreal  
 January 23, 24: Richard Kroner, Associate Professor, Department of Philosophy, University of Berlin  
 January 25: Dr. J. P. Warbasse, President of the Co-operative League of America  
 February 4: Dr. K. A. Menninger, Psychiatrist, Menninger Clinic, Topeka, Kansas  
 February 6: Charles Hardy, Member of the Research Staff, Institute of Economics, Brookings Institution, Washington, D.C.  
 February 6: Melchior Palyi, Economist of the Deutsche Bank  
 February 6: James H. Rogers, Professor of Political Economy, Yale University  
 February 6: J. Frederick Essary, of the *Baltimore Sun*  
 February 13: Dr. R. Bradfield, Professor of Soils, Ohio State University  
 February 15: R. A. Daly, Professor of Geology, Harvard University

- February 17: Dr. Paul Dengler, Director of the Austro-American Institute of Education
- February 20: L. M. Gould, Second in Command of the First Byrd Expedition, and Professor of Geology, Carleton College
- February 20: L. F. Livingston, National President of the American Society of Agricultural Engineers
- February 21: Zaheeduddin Syed, Assistant Superintendent of the Government Agricultural Experiment Station at Hyderabad, India
- February 24: Dr. G. W. Corner, Professor of Anatomy, Rochester University, Rochester, New York
- February 29: Dr. C. H. Davis, Clinical Professor and Director of the Department of Obstetrics and Gynecology of Marquette University Medical School
- March 5: Martin Glaesser, Professor of Economics, University of Wisconsin
- March 5: Dr. Karl Ziegler, Professor of Organic Chemistry, University of Heidelberg, Germany
- March 13: Debate Team from the University of Melbourne, Australia
- March 16: Ruth Shaw, Educator
- March 17: Dr. F. C. Mann, Professor of Experimental Surgery, Mayo Foundation

## SPRING QUARTER

- March 30: Edward Bartow, Professor and Head of Department of Chemistry, State University of Iowa
- April 1, 2: Eduard Geismar, Professor of Theology, University of Copenhagen
- April 6, 7: B. I. Staples, Navajo Indian Exhibit, Coolidge, New Mexico
- April 9: Dr. W. G. Norrish, Professor of Physical Chemistry, University of Cambridge
- April 15: S. Arthur Devan, Chaplain, Hampton Institute
- April 21: Karl Onthank, Dean of Personnel Administration, University of Oregon
- April 23: Debate Team from the University of Hawaii
- April 24: Nolle R. Smith, Secretary of the Hawaiian Bureau of Governmental Research
- April 27: Harold Nathan, Aide of J. E. Hoover of the Federal Bureau of Investigation, Washington, D.C.
- April 28: Dr. Leon Asher, Physiologist, University of Berne, Switzerland
- May 4: Ernest E. Calkins, Writer and Lecturer on Art, Printing, and Advertising
- May 4: Dr. J. C. Morrell, Director of Research for the Universal Oil Products Corporation
- May 6: Thomas S. Barclay, Associate Professor of Political Science, Stanford University
- May 7: Dr. W. W. Cort, Professor and Head of the Department of Helminthology, School of Hygiene and Public Health, Johns Hopkins University
- May 8: George Williamson, Professor of English, University of Oregon
- May 11, 12: Egon Brunswik, Lecturer in Psychology, University of Vienna
- May 15: W. H. Cowley, Department of Educational Research, Ohio State University
- May 22: Dr. and Mrs. Jean Piccard, Researchers in Aeronautical Engineering
- May 26: Henry E. Lee, Student of Archeology, Botany, and Geology of the Black Hills
- May 27: Merrill Hughes, Professor of English, University of California
- June 3: Dr. K. E. Miller, Senior Surgeon of the United States Public Health Service

**Sigma Xi lectures.** The series of popular scientific lectures inaugurated by Sigma Xi in 1928 was continued during the biennium. In 1934-35 the central theme was "Our Natural Heritage in Relation to Public Welfare" with these speakers:

January 25: Dr. George A. Thiel, "Relation of Human Activities to the Depletion of Our Water Resources"

February 1: Dr. Henry Schmitz, "Forests and Human Welfare"

February 8: Dr. F. J. Alway, "The Soils"

February 15: Dr. Richard E. Scammon, "People As a Factor in Our Heritage"

The general topic in 1935-36 was "Medical Science and Human Welfare":

January 24: Dr. W. C. Alvarez, "The Emergence of Modern Medicine from Ancient Folklore"

January 31: Dr. O. H. Wangenstein, "The Benefactions of Surgery to Mankind"

February 7: Dr. E. T. Bell, "Natural Defenses of the Body"

February 14: Dr. Irvine McQuarrie, "Endocrine Glands in Health and Disease"

#### UNIVERSITY CONCERT COURSES

The seasons of 1934-35 and 1935-36 brought to the campus outstanding musical programs arranged by Verna G. Scott, director of the University Concert Courses. The programs of the Minneapolis Symphony Orchestra, Eugene Ormandy, conductor, were given in Northrop Memorial Auditorium. In the first year of the biennium thirty-seven concerts were presented, including the regular Friday evening series, the Sunday afternoon series, and the series for school children. In the second year, there were sixteen Friday night concerts, eighteen Sunday afternoon popular concerts, three concerts for the school children of the Twin Cities, and three extra concerts for the general public. In addition, three concerts were given expressly for the students at the University. Soloists presented with the orchestra in 1934-35 were: Ruth Slenczynski, Benno Moiseiwitsch, Joseph Szigeti, Elisabeth Schumann, Grete Stueckgold, Ossip Gabrilowitsch, Nathan Milstein, and Feodor Chaliapin; in 1935-36: Kirsten Flagstad, Serge Rachmaninoff, Gregor Piatigorsky, Jascha Heifetz, Nino Martini, Edith Mason, Nelson Eddy, Mischa Levitzki, and Percy Grainger. During the season of 1935-36 the orchestra played to a total attendance of over 100,000.

During the 1934-35 season of the Artists Course these programs were presented: Metropolitan Opera Quartet, *The Green Pastures* (drama), Nino Martini, Igor Stravinsky, Ruggerio Ricci, and Eunice Norton. The attractions in 1935-36 were Lawrence Tibbett, Nathan Milstein, the Jooss European Ballet, Ruth Slenczynski, Enid Szanthy, and Alexander Brailowsky. There was also one extra concert by the St. Olaf Choir.

## UNIVERSITY'S EXTERNAL RELATIONS

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- Relative Standing of the University of Minnesota, page 63
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## REGENTS' EXAMINING COMMITTEE

The regular session of the 1935 Legislature enacted into law a measure enlarging the State Bureau of Criminal Apprehension from a total personnel of twelve to twenty-eight persons and requiring that subsequent to enactment all appointments . . . . "be made from a list of applicants who have qualified for such positions by passing an examination prepared and supervised by the Board of Regents of the University of the State of Minnesota, or their agents . . . ." (Chapter 197, *Laws of 1935*). To carry out the provisions of this law, on May 17, 1935, President Coffman appointed a committee of the staff consisting of the following: George B. Vold, chairman, Ambrose Fuller, Henry E. Hartig, William L. Prosser, and Edmund G. Williamson. Professor William Anderson was added on February 1, 1936. For convenience of designation in correspondence and otherwise, the committee has adopted the official title, Regents' Examining Committee.

The work of the committee has centered around two problems: (1) preparing and administering examinations to applicants for positions in the State Bureau of Criminal Apprehension, and (2) attempting to determine what action may be desirable and practical on the part of the University in support of a training school for police officers.

### EXAMINATION OF APPLICANTS FOR POSITIONS IN THE STATE BUREAU OF CRIMINAL APPREHENSION

**The committee's task.** The superintendent of the State Bureau of Criminal Apprehension reported seventeen vacancies to be filled in seven different classes of positions involving four fields of specialization, namely: radio engineers, statisticians, identification experts, and investigators. The law set up no specifications or standards which applicants would have to meet in order to qualify for the various positions. The committee, therefore, had to determine the appropriate job specifications and desirable minimum requirements for the positions, that would insure the selection of the highest type of personnel.

Immediately after appointment, the committee sought the assistance and advice of well-known police experts, both with regard to desirable minimum requirements and on the question of the best available examining devices. Among those consulted were the following: August Vollmer, former chief of police, Berkeley, California, and an internationally recognized authority on police qualifications; J. Edgar Hoover, director, Division of Investigation, United States Department of Justice; Newman F. Baker, Northwestern University Law School, and distinguished member of the staff of the Scientific Crime Detection Laboratory; Leonard D. White, formerly chief examiner, United States Civil Service Commission, now United States Civil Service commissioner, and nationally known authority on problems of personnel in public administration; members of the civil service commissions of the cities of Minneapolis, St. Paul, and Duluth; and various psychologists, examiners, and experts on test construction connected with the University, or otherwise prominent in scientific circles.

From this study of the problem, the committee drew up general specifications which were set as basic qualifications for all positions. These included such minimum requirements as citizenship and a year's residence in the state, age limits of twenty-five to forty (twenty-five to forty-five in case of certain technical positions), high school education or the equivalent, and a clear police record indicated by finger-print check.

**The examining procedure.** The examining procedure sought to determine the following four things for each applicant:

1. **Alertness and general mental ability.** The Army Alpha Examination was used for this purpose. The distinctive value of this test for this purpose comes from its extensive use on adults in employment situations. Police norms are, therefore, available from many cities that have used this test. A further check on the intelligence level of applicants was their performance on the Minnesota College Aptitude Test with its well-developed norms on the Minnesota high school and college population.

2. **Special police ability and aptitude.** The O'Rourke Policeman's Examination, General Adaptability Test, was used. This is a technical diagnostic examination developed by the United States Civil Service for use in determining relative standing and ability of men in police work.

3. **School or educational achievement.** The Minnesota College Aptitude Test was used to check and verify the information on education listed in the official application form. The locally standardized school grade equivalents for this examination were found to be useful indicators of educational achievement.

4. **Competence in special technical field.** Special examinations in each of the technical fields were prepared by university staff members and other specialists in that field. In addition to these written tests, each applicant who had passed earlier qualifying parts of the examination was required to meet the committee for the purpose of further oral examination and final interview.

The procedure of the committee in scoring and evaluating the performance on the various parts of the examination was kept as simple as possible. As soon as the individual written examinations had been scored, the committee met and arranged the entire group of applicants into five classes (I, II, III, IV, V) of relative desirability on the basis of test performance and other desirable qualifications indicated on the application form. Class I included all those standing very high on all tests in addition to exceptional experience qualifications; Class II, those of relatively high grade performance (better than average) on the tests and with good experience background; Class III, those of average performance and average qualifications; Class IV, below average; Class V, distinctly inferior. After further testing within the special field of the position (radio engineering, statistics, identification, etc.), the Class I group were called before the committee, meeting as a group, for final interview and a discussion of the work involved and the applicant's probable qualifications for the job. On the basis of this entire performance, the committee voted on the question of whether to accept or reject the applicant for the certified list. In determining who passed the examination, the committee held to minimum standards advised by nationally recognized police experts. It required, in fact, about the same degree of excellence in performance on examinations as is now required by the City Civil Service Commission of Los Angeles for policemen.

**The examinations and certification.** The Legislature provided no funds for the purpose of developing or conducting this examination. The only charge to the applicant was a fee of \$4 for the physical exami-

nation required of those in Class I. Other expenses connected with the examination, such as for materials and help in scoring, were met by the University.

A general qualifying examination for all positions was given June 3, 1935. When the final lists of those who qualified for the various positions had been transmitted to the State Bureau of Criminal Apprehension, an appeal was taken by the superintendent to the attorney general for an opinion on the question of whether the committee had exceeded its authority in setting up minimum requirements relating to age and education before applicants would be admitted to the examination. The attorney general ruled that the committee had no authority to bar any individual from the examination on account of inability to meet such minimum requirements. In compliance with this ruling the Board of Regents directed the committee to conduct a supplementary examination without any restrictions as to age or educational achievement, but not open to those who had failed to pass the June examination. This supplementary examination was given November 22, 1935, and the final lists of qualified applicants were transmitted to the superintendent of the Bureau of Criminal Apprehension on December 26, 1935.

All positions have now been filled from the lists of qualified applicants submitted by the committee. Present indications are that the persons appointed are giving excellent service and complete satisfaction in their respective positions, testifying in a measure at least to the general soundness of the procedures followed by the committee.

The three tables that follow summarize in statistical form several important aspects of this work.

TABLE I. APPLICANTS AND POSITIONS

POSITION	NUMBER OF VACANCIES	NUMBER OF APPLICANTS EXAMINED	NUMBER OF APPLICANTS CERTIFIED AS QUALIFIED
Supervisor of radio broadcasting station .....	1	10	3
Operator of radio broadcasting station .....	3	17	8
Director, Division of Criminal Statistics .....	1	9	3
Assistant statistician .....	1	13	2
Identification expert .....	1	10	3
Assistant identification expert and photographer.....	1	6	2
Investigators .....	9	275	33
Totals .....	17	340	54

TABLE II. AGE OF APPLICANTS (IN PER CENT)

AGE IN YEARS	SIX TECHNICAL POSITIONS		INVESTIGATORS
50 .....	5	7	
45-49 .....	5	9	
40-44 .....	12	14	
35-39 .....	12	19	
30-34 .....	23	16	
25-29 .....	31	28	
Below 25 .....	12	7	
Totals .....	100	100	

TABLE III. EDUCATION OF APPLICANTS (IN PER CENT)

EXTENT OF EDUCATION	SIX TECHNICAL POSITIONS	INVESTIGATORS
Postgraduate work .....	26	10
College graduate .....	11	12
Some college work .....	17	14
High school graduate .....	25	25
Some high school work .....	11	28
Eighth grade or less .....	10	11
Totals .....	100	100

### THE UNIVERSITY'S PART IN A POLICE OFFICERS' TRAINING SCHOOL

The Minnesota Crime Commission of 1934 recommended the establishment of police training at the University. The 1935 Legislature failed to make any appropriation for this purpose but attached a provision to the University Appropriation Bill specifically authorizing the University to conduct such instruction and also authorizing political subdivisions of the state to pay the expenses of their law enforcement officers in attending such a police school. The Regents' Examining Committee was asked to investigate the whole question involved.

**Need for research and study.** In preliminary reports the committee indicated the need for more thorough investigation of the type of training now in use elsewhere, and pointed out the complex nature of the problem due to the different interests and functions of the several groups in the state that need to be served by such training. It recommended that funds be made available with which to employ a small research staff to collect materials on existing practices in police training throughout the country, and to study the situation in this state with reference to qualifications of existing police personnel, their training needs, and their probable support of a centrally located training school. It was felt that only on the basis of this more complete information could any long-time program be outlined. At the same time it was recommended that the immediate in-service training needs of present police officers in the cities and towns of the state be cared for by organizing short-course training schools through the regular channels of the University Extension Division.

The necessary grant of funds for this research was voted by the Board of Regents, and a staff consisting of a full-time secretary and a research director was employed, beginning February 1, 1936. Three aspects of the problem are being worked out by this staff, namely, a survey of existing training procedures elsewhere, an analysis of the needs and qualifications of the existing police personnel in the state, and finally, an estimated cost analysis of several alternative programs that might be undertaken by the University. The first phase of this work has been practically completed and a valuable report filed with the committee; the second is in the process of analysis and well on the way toward completion; the third remains to be worked out.

**Short course for police officials.** The committee co-operated with the Extension Division of the University and the Minnesota League of Municipalities in sponsoring a short-course police school of one week's duration in May, 1936. This experiment brought out interesting facts indicating the eagerness and enthusiasm with which the police personnel of the state view the prospect of a regularly established training program. Of the 82 students enrolled, 38 were chiefs of police, 37 were patrolmen or other officers, 9 were sheriffs or deputies, and 3 were not employed. Of the municipal officers attending, 21 paid their own expenses, while 49 had their expenses paid by their cities; 59 attended on city time, while 10 attended on their own time. The most encouraging aspect of this whole venture from the standpoint of its sponsors was the note of optimism and enthusiasm expressed by the officers in attendance in regard to further training. They were constantly expressing opinions and hopes about "the next course," "next year," etc., indicating a complete willingness to continue the experiment and support an expansion of program. This, it would seem, offers a promising note for the future.

#### UNIVERSITY TRAINING FOR PUBLIC SERVICE

A university committee appointed by President L. D. Coffman to consider and to advise upon a plan of university training for the public service submitted its report in May, 1935. It recommended: (1) the appointment of a standing all-university committee, representing the several schools and colleges concerned and the social science departments, to be responsible for the development of a public service training program and the co-ordination of the training facilities of the University; (2) the creation of a training center and government laboratory for the purpose of assembling documentary and other materials required in public service training and in furnishing to students accurate and timely information concerning the requirements of, and opportunities in, the public service; (3) the designation of a member of the university faculty to have immediate charge of the training center and to confer with students and faculty concerning positions in government service; and (4) that financial aid be requested from some foundation to assist the University in establishing and maintaining the training center and in providing instructional staff and equipment for an intensive course of training in public administration.

The report of this special committee was approved by the Administrative Committee of the University and in October, 1935, a request was made for funds to support the training program. Representatives of the foundations visited the University during the year to confer with the president and members of the staff relative to the project, and in April, 1936, the trustees of the Rockefeller Foundation appropriated \$85,000 to be used over a period of five years beginning July 1, 1936, to provide special training in the field of public administration. This grant was accepted by the Board of Regents of the University on May 12, 1936.

President Coffman appointed a Committee on Training for Public Administration to serve in an advisory and supervisory capacity in the development of plans and policies relative to the new course of training. This committee, of which Professor William Anderson of the Department of Political Science is the chairman, consists of the deans and faculty representatives of the several divisions and departments of the University most immediately concerned.

**Program to be offered.** In recognition of the assistance received from the Rockefeller Foundation, and in order to achieve the best possible results from the instruction and training facilities thus provided, the University will offer two types of fellowships beginning with the academic year 1936-37. "Pre-service fellowships in public administration" will be offered to college and university graduates without previous experience in public service. The program of training for these fellows will extend through a two-year period, the first year to be spent in study at the University and the second year in service as an interne in some governmental department—national, state, or local. "In-service fellowships in public administration" will be offered to graduates of colleges and universities who have had at least three years of experience in government service, preferably in a position involving some administrative responsibility. Applicants for these fellowships must have the endorsement of their governmental employer. The period of training for in-service fellows will extend through three quarters of the regular academic year and the first term of the Summer Session. Five or six fellowships of each type will be awarded each year.

Both groups of fellows will be enrolled in a graduate seminar in public administration to be taught by members of the Department of Political Science. Special lectures and conferences with public officials will supplement the work of the seminar. Additional courses will be planned for each student in the light of his previous preparation, personal interests, and the requirements of public service. In-service fellows will be required to engage in research projects of immediate interest to their governmental units or departments. Pre-service fellows will be required to submit a report of their work at the close of their internship. Credit earned in residence at the University during the training period may be applied by both types of fellows toward advanced degrees in the Graduate School. Provision may be made later for the award of professional degrees in public administration.

Adequate accommodations for the training center and government laboratory will be provided in the Library Building of the University adjacent to the library and offices of the Municipal Reference Bureau. The necessary staff has been recruited and preparations are being made to begin the new program in the fall quarter of 1936. The University of Minnesota is the first state university in the United States to undertake this type of graduate training in public administration. It is hoped that additional aid may be secured at a later time to permit broadening the program to include short courses, institutes, and conferences for the benefit of a large number of public officers and employees throughout the state.

## PUBLIC HEALTH TRAINING CENTER

The passage of the federal Social Security Act results in an expansion of public health work throughout the country. This in turn is creating a need for more trained personnel. To make this necessary training available the Social Security Act provides that some assistance shall be given in the development of several regional public health training centers throughout the country. The United States Public Health Service is charged with the administration of this portion of the act and they have selected the University of Minnesota as the regional training center for the north central states. Most of the basic facilities necessary for such training are already available here but some additional personnel and facilities will be needed. To assist in providing these the University is receiving from the United States Public Health Service a subsidy at an annual rate of \$18,000.

RELATIVE STANDING OF THE UNIVERSITY OF  
MINNESOTA

Comparisons between educational institutions are as invidious as comparisons between individuals. Yet a few facts relative to the standing of the University of Minnesota may not be out of place. The 1933-35 edition of *Who's Who in America* lists 152 members of the staff; the University has 37 men starred in *American Men of Science*; the Committee on Friendly Relations among Foreign Students reported that the University of Minnesota had been among the first ten for the last two years in the number of registered students from foreign countries; and an article by Mr. Edwin R. Embree, president of the Julius Rosenwald Fund, published in the *Atlantic Monthly*, included the University of Minnesota on the list of the eleven leading universities of America.

## PROPOSED INTERNATIONAL HOUSE

During the academic year 1935-36 a special committee representing the administration and the All-University Student Council gave special attention to the possibility that the University of Minnesota might at some time erect an International House to provide living quarters for foreign students. The original suggestion for consideration of the problem was contained in a letter from President Coffman to Mr. Theodore Christianson, then the president of the council. It read in part:

For a number of years I have been of the opinion that we should consider seriously the possibility of providing an International House. I have had the matter looked up two or three times, not very thoroughly I think, but there did not seem to be much sentiment in favor of it. The University of Minnesota has for years, as you perhaps know, had one of the largest foreign enrolments of any university in this country. International Houses have been built at Columbia, Chicago, and California (Berkeley). I do not know for the moment what they cost, nor what policies have been adopted for their administration. I think, however, that these buildings are open to all students regardless of race. I am wondering if the Council would be willing to join with me in a study of this matter.

This letter resulted in the appointment of the joint committee.

In the late spring of 1931 a report was filed. Although there is no immediate prospect that such a building can be erected, the report contains many valuable details and recommendations that will prove useful at any time in the future when it seems feasible to consider the project further. The opening paragraph of this report summarizes the attitude of the committee:

After six months of consideration, discussion, and investigation, the committee has come to the conclusion that an International House will satisfy a definite need on the University of Minnesota campus. It will provide a wholesome environment in which a foreign student may acclimate himself to American ways and customs, and vastly more important, it will offer an American student an opportunity to learn of the problems and ways of other nations. Such a house will provide living facilities for the male students from other countries and will be a focal center for social and intellectual gatherings not only for students, but also for faculty members and residents of the Twin Cities. Thus an International House belongs in the University family, for its prime function will be educational.

### VISIT OF AUSTRALIAN WORKERS

The Training Course for Social Work of the University of Minnesota as well as specialized social agencies in the Twin Cities were complimented in January 1935 by the visit of Miss Aileen Fitzpatrick, director of the Board of Social Study and Training of Sydney, Australia. Miss Fitzpatrick had previously visited the University in 1933 but on this second visit was accompanied by her assistant, Miss M. C. Davis, and sixteen social welfare workers or social workers in training from Sydney. The members of this Australian group were on a visit to the United States in order to become acquainted with the organization and procedures of social workers in the United States. Miss Fitzpatrick's previous visit convinced her that the University of Minnesota and the Twin Cities offered opportunities for the study of social work in theory and in practice which would be of great value; the group spent the longest interval of its stay in the United States at the University.

Commenting upon the visit of the Australian group, a member of the University's Department of Sociology said:

The chief significance of the visit centered in the occasion it afforded for an international exchange of views relative to the professional developments and services of social workers. The social workers and social agencies in this community have attained rather an elaborate degree of specialization in service and in technique. This state of development is considerably more advanced than anything in Europe and especially in Australia. We feel that these Australian students gained by seeing in operation these rather highly developed techniques of social service. For our part, we felt a refreshment and broadening in point of view because of the development of social legislation and social life in Australia as described and interpreted by Miss Fitzpatrick. Social legislation there is in many respects advanced beyond the stage represented in Minnesota. There were thus, gains on both sides.

### FELLOWSHIP AWARDS

One measure of the reputation of a university is the number of its staff and graduate students who are given special recognition through fellowship awards. In the academic world the fellowships of the John

Simon Guggenheim Memorial Foundation, the Social Science Research Council, and the National Research Council carry outstanding prestige. A recent study of grants made by the former foundation reveals that Minnesota is second on the list of institutions in the number of fellowship recipients since the fund was established in 1925. The University of California has enjoyed the generosity of the foundation to the extent of thirty-two fellowships, leading all other schools in this respect, while twenty members of the Minnesota faculty have received grants which have enabled them to continue special studies in this country and abroad. Twenty awards have also been made to members of the faculties of two other schools, Harvard and Chicago.

On the university faculty are nineteen men who have been Guggenheim fellows and in this allocation of the former holders of such fellowships, Minnesota is preceded on the list only by California with twenty-nine and Chicago with twenty-four.

On the list of states arranged according to the number of fellows resident in the various states at the time of their appointments, Minnesota is fifth. This is complimentary to the state in view of the fact that Minnesota, from the standpoint of population, ranked eighteenth among the states of the Union in the 1930 census.

The University has likewise ranked high among the institutions in the number of the staff who have held the Social Science Research Council and the National Research Council fellowships for postgraduate study.

### EXCHANGE PROFESSORSHIPS

The University has long recognized the values that follow an exchange of professorships, whereby a member of its own staff goes to another institution for a designated period of time, and a member of the staff of that institution comes to Minnesota. Such interchanges are inevitably stimulating for the staff members and the students. During the biennium two such arrangements were approved by the Regents. Miss Elizabeth Jackson, assistant professor of English exchanged positions with Miss Laura V. Schwartz of the University of Hawaii for the academic year 1935-36, and Professor Roy C. Jones of the School of Architecture exchanged positions with Professor Lawrence B. Anderson of the Massachusetts Institute of Technology from September 16, 1935 through January, 1936.

### PUBLICITY

The Regents in 1936 approved the following resolution relating to indiscriminate publicity on the campus:

All signs, posters, announcements and other publicity material must be confined to the bulletin boards, and the other officially recognized University channels of publicity, and their display must be approved by an officer of the University appointed by the President.

This regulation should be published hereafter in the official catalogue of the University.

The purpose of this regulation is to prohibit the indiscriminate flooding of the campus with advertising and other extraneous material. Nine official bulletin boards have been erected at strategic points, and all poster notices are confined to these.

### MINNESOTA DADS' ASSOCIATION

Under the leadership of Mr. Edward F. Flynn of St. Paul, and Mr. Edward L. Eylar of Minneapolis, the Minnesota Dads' Association, which was organized five years ago, has been making notable progress. It has twenty local units organized in various sections of the state. This association has as its main purpose the cultivation of an appreciation of the value of the University among the fathers of students at the University. Mr. Flynn states:

For years the university has been a part of the everyday life of the city of Minneapolis and more recently of St. Paul as well. A few years ago people in St. Paul used to speak of the university as if it were a seat of learning that belonged to Minneapolis. Suddenly in St. Paul we realized that not only was the university partly located in St. Paul, but that it belongs to everyone in the state.

Two years ago when those of us who are now in charge of the Dads' Association were elected, we looked about to see what could be done to aid the university. We endeavored to adjust any little difficulties of which we learned that existed between the university and students or their parents. It was gratifying to know that in most of these cases the differences which we thought existed vanished as we endeavored to get to the bottom of them. A little later the executive committee came to the conclusion that if the Dads' Association were to accomplish anything worth while it would be necessary to organize chapters of the association in the various counties in the state. We felt that we could not accomplish a great deal unless throughout the state we had contact units to work directly with the state association. At the various places where we organized we endeavored to explain the university to the people of the county. We explained to them that while the university plant has cost the state a good many million dollars, it probably would be necessary to expend almost twice as much today if it were necessary to replace the buildings and property which make up the campus of the University of Minnesota. We endeavored to show that when a state educates a young man or woman it has an investment of perhaps \$2,500 in that boy or girl and that this investment is worth protecting. We asked the dads to keep in contact with the students while attending the university, and more especially after graduation to see that students who might lack initiative might find their places in society. We endeavored to show that while the natural resources of the state are valuable, human resources are even more so and that human resources might be wasted even more easily and readily than the natural resources with which the state has been blessed.

The purposes of the association are set forth in the Constitution and By-laws, as follows:

To promote the welfare of students at the University of Minnesota, to study conditions affecting them, to disseminate all helpful information thus secured, to assist in improving such conditions, to work actively, continuously, and persistently toward the advancement and improvement of the University of Minnesota educationally, morally, socially and in all other ways which may be helpful to the student body, the individual student, the institution, the State and those who by their tax payments make possible the service for which it was created and is maintained to provide; and to assist in the work of the Dads' Association of the University of Minnesota.

## COMMITTEE ON LAND UTILIZATION IN MINNESOTA

The Committee on Land Utilization in Minnesota, appointed in 1932 by Governor Floyd B. Olson, prepared its final report in 1934. This was published by the University of Minnesota Press. The report discusses problems of land use, water supply and its uses, forests, climate, and related matters in Minnesota, and the relationships of these resources to the agriculture and other industries of the state. Each of the chapters has been prepared by one or more experts, whose names and functions are stated. Some of them have been written by state experts and some by members of the staff of the University of Minnesota or the Lake States Forest Experiment Station.

The members of the committee were C. K. Blandin, St. Paul; Richard Griggs, Duluth; E. G. Hall, St. Paul; Winfield Holmes, Wrenshall; A. D. Johnson, Bemidji; John I. Levin, St. Paul, secretary; W. H. McGenty, Duluth; A. J. Olson, Renville; Mrs. James S. Thurston, Minneapolis; Judson L. Wicks, Minneapolis, Raphael Zon, University Farm; and L. D. Coffman, Minneapolis, chairman.

## PATENTS

The following patents have been applied for and are pending. Assignment of these patents will be given to the University.

Professor E. W. Davis, Mines Experiment Station. Patent pending on an experimental ore roasting furnace which has been developed and is under test at Cooley, Minnesota.

Professor R. A. Gortner, Agricultural Biochemistry. Patent pending covering an improved process of using phosphoric acid in the preservation of silage. In the Patent Office there is some question as to whether or not this patent applied for does not interfere with the Virtanen patent.

Professor R. L. Dowdell, School of Mines and Metallurgy, and Dr. Robert G. Green, Medical School. Patent pending covering non-poisonous duck shot, "Metallic shot and process of making same."

Professor Lew W. Cornell and Professor Ralph E. Montonna, School of Chemistry. Patent pending for alpha-cellulose products and process for making the same. Assignment to University accepted on April 29, 1936.

Professor Arild E. Hansen, Department of Pediatrics. Patent pending for a composition for treatment of eczema. Assignment to the University accepted July 31, 1936.

## **ATHLETICS**

**College Sportsmanship, page 71**

**Town Sports Plan, page 74**

**Athletic Endowment Fund, page 75**

## COLLEGE SPORTSMANSHIP

The problems of intercollegiate sports are perennial. The changes which have occurred within the colleges and universities themselves and in the attitude of the American people with regard to intercollegiate sports in the last forty years, have created an athletic situation unlike that which exists in any other country in the world. College games which in earlier days were played by boys for the joy of the sport are now for the most part highly organized and controlled. Whether professional football will result in a waning interest in college football remains to be seen, but it is not without significance that from twenty-five to sixty thousand persons sometimes now attend a single professional football game.

The reason college sports, and particularly football, have developed to the point they have, is found in the inordinate desire of the American people to win. This passion often overrides and overshadows the very excuse for the existence of games. To achieve this end we have introduced paid professional coaches, arranged intercollegiate schedules, erected stadia, drawn upon gate receipts running into large amounts, and some institutions have apparently given much thought to recruiting football teams. Scholarships for athletes have increased in number. Legislators have been known to pass laws providing that each legislator may give to a nonresident a free scholarship to the state university; such laws, it was claimed were passed largely to benefit the football team. Enormous pressure is brought to bear upon the coach to turn out successful—that is, winning—teams. Compare all this with college sports as they exist at Oxford, for example. There you will find no training tables, no skull sessions, no secret practice, no paid scouts, no tyranny of pressure groups to win, no coaches to train the teams and to direct the games, no proselyting of players, no scholarships for athletes. There the games are *games*, and not as someone has said, “dynastic wars.”

Certain claims are set up by the friends of American sports. One is that they increase attendance at universities that have successful teams; another is that they increase the revenues of these institutions; and a third is that they help to improve the educational work of such institutions. Not a single one of these claims is true.

It is important in view of these facts that we give some reflection to the future of college sports. Recently I heard the secretary of a civic and commerce association laud them, claiming that Greece reached her greatest intellectual glory at a time when athletes were prominent. That of course is true, but it must be remembered that in the days of Plato, Aristotle, and Socrates, games were entered into voluntarily and that none of the modern machinery existed for their control and administration.

I have always been friendly to intercollegiate sports. As a matter of fact, I participated in them to some extent when I was a student and I believe that they have important values for an educational institution. Yet it does seem to me that they are in danger of being professionalized, of being overcommercialized, and of being destroyed by the betting

public and the poolroom houses. Intercollegiate sports in this country are probably in far greater danger from these forces than they are from any conditions that affect them within the colleges and universities themselves. And yet the educational institutions cannot be absolved entirely if there is truth in any considerable number of the reports which are circulating. The president of a university told me not long ago that the alumni of his institution had provided twenty-two scholarships for football players, each scholarship carrying a salary of \$40 a month for nine months. A coach told me recently that he knew of a university that is now providing \$40,000 a year for the hiring of football players. A high school graduate told me that he had been given certain promises by the athletic staff of a midwestern university; after attending the school for a few weeks on the money provided for him by the athletic staff, it became clear that some of the promises would not be carried out, so he left that university and offered his services to others. It would be far from true, of course, to create the impression that all the colleges and universities of America are engaged in hiring football players, or that a very large number of young people participating in the sports are willing to "sell out"; and yet the tendency in the direction of these disintegrating forces has been gathering momentum in recent years. It represents a problem which deserves our most careful thought and attention.

Mr. John L. Griffith, athletic commissioner of the Intercollegiate Conference, and president of the National Collegiate Athletic Association, has this to say about the matter:

To: *The Presidents of the National Collegiate Athletic Association Colleges and Universities.*

We are indebted to Mr. Romeyn Berry for a statement which sets forth a condition with which we are not unfamiliar. Some time ago he said, "The colleges are being taken up into a high mountain and shown all the wealth and publicity that await those educational foundations that are willing to sell their souls for a couple of fast backs." In these days when many men throughout the world are willing to sacrifice their principles for immediate gain it is quite natural that some of those who are responsible for upholding athletic principles are willing to sell their souls for the promise of wealth and publicity. The universities are perhaps the last stronghold of idealism and integrity. How are we going to teach our Sophomores that "because right is right to follow right were wisdom in the scorn of consequences" if these Sophomores know full well that university authorities are buying athletes or conniving at the practice?

Whenever a university that in the past has enjoyed athletic prosperity enters upon a period of athletic depression there is the temptation to effect a recovery by adopting short-cut methods. The method that is invariably proposed consists of hiring a few mercenaries to win football games for Alma Mater. Those who suggest or are responsible for putting into practice this method offer the excuse that others are cheating and therefore it is necessary to adopt practical methods designed to result in football victories.

It is significant that no college that follows or condones this practice openly admits or advertises the fact that the players on the college team have been paid for their services. If any college that is represented by athletic mercenaries would openly let the facts be known and then schedule games only with similar institutions whose teams are made up of paid players, even those who felt that such a procedure was undesirable would commend the honesty and integrity of the university authorities in question.

Here and there is to be found a college or university that in the judgment of the college world does not offer inducements to athletes but instead maintains the best traditions of amateur sport. The presidents, faculty representatives, and

athletic directors of those colleges deserve the support and commendation of all. The time will probably never come when the administration of college athletics will be 100 per cent perfect, but we can by working concertedly improve the situation that now exists.

Yours respectfully,  
JOHN L. GRIFFITH

It is well known that the scholastic standards for athletes, imposed by the various conferences, including the Big Ten, have never been as high as they should be. Contrary to common opinion there is no regulation in the Big Ten which requires an athlete to make progressive advancement from year to year toward his degree in order to participate in athletics. No student can play until he is a full-fledged sophomore, but once he has become a sophomore he may, after playing in the fall, drop out of school and be eligible to play the next fall, provided he carried satisfactorily the minimum number of hours of work during the term he played; and he may repeat this action at the end of his second term of playing; at the end of his third term of playing he may withdraw entirely from the university. If the university is on a quarter plan he will have completed his freshman year and two-thirds of his sophomore year; if it is on a semester plan he will have completed his sophomore year. It is my conviction that a sophomore should not be allowed to play again until he is a full-fledged junior; and that a junior should not be allowed to play again until he is a full-fledged senior.

There are grave dangers in the overcommercialization of football. It is easy to become impressed with the large revenues, and undoubtedly some institutions have need for them in meeting the obligations that they have incurred in constructing their athletic plants. It is interesting to observe that this fall some of the major colleges of this country began to sell broadcasting rights for their football games, to be sponsored by commercial sponsors who sought to sell more goods by tying in on football goodwill and interest. The University of Minnesota has decided against commercial sponsorship of its football broadcasts. It is encouraging to find the student body giving hearty support to this decision, as expressed in this editorial from the *Minnesota Daily*:

#### RADIO COMMITTEE'S REFUSAL TO SELL FOOTBALL DESERVES A HAND

The announcement that the University will not allow commercial sponsorship of football broadcasts from Memorial stadium in the future should meet with unbounded approval from students in general and those in particular who play varsity football or who gather around the radio on Saturday afternoons.

H. I. Phillips, in an article in the *Saturday Evening Post*, points out that many a collegiate footballer can this year have the double satisfaction of carrying the ball for dear old Siwash and for Lollie's Little Liver Pills. "Ultimately," he declares, "the problem of picking the All-American will probably be secondary to the question whether Princeton is as good an air feature as Jessica Dragonette, whether Harvard will ever have the radio appeal of Stoopnagel & Budd, and just where Yale should rate in the radio advertising world compared with Joe Penner."

The action of the radio broadcasting committee has relieved Minnesota's football player of the necessity for developing a radio personality along with skill in broken field running. Nor must he be a triple threat man—in the sense of Phillips—"a lad who can run, block or croon." More than that, radio listeners can enjoy their football unadulterated by hymns in praise of Gus' Trusses or the

All-American breakfast food. The University students, unlike the students at twenty-four other American colleges and universities whose football games are being broadcast under commercial sponsorship this year, need not feel that their administrative officials have sold out one of the few University functions which foster tradition and loyalty to the school.

For refusing, then, to put their football players on the same footing as radio entertainers, for saving the radio audience from ceaseless annoyance, and for preventing the University's name from being linked with that of a commercial advertiser, the University owes its radio broadcasting committee an expression of gratitude and approval.

I would have no interest in a movement to destroy college athletics. On the contrary, I should like to see them expand. But if they are to expand on a healthy basis we must introduce some reforms. If we really wish to save college athletics there should be no hiring of players, high scholarship standards should be maintained, games should be played by the natural rivals, receipts should be reduced, expenses should be cut down, the sports in so far as possible should be supported out of endowment, and students should be admitted free to many, if not all the games. I think this program would be helped tremendously if alumni, regents, faculties, students, and sports writers of this country would join in promoting it. When coaches are asked by alumni or by the sports writers of their respective communities to put this or that person on the team, when the personnel of their teams is picked for them by the sports writers, when the sports writers intentionally or otherwise attempt to dictate the policies as to staff, as to squad, as to schedules, as to methods of play, as well as to members of the team, we have a distressing and deplorable situation. It is my opinion that there are few, if any, groups in this country who could do more than the sports writers to help maintain the amateur character of college football. They should expose everything which in any way reflects upon the game or in any way tends to destroy its amateur character.

### TOWN SPORTS PLAN

The University, in co-operation with the school boards of Litchfield and Glencoe, is arranging a model program of sports and recreation for each of these towns. This program is in charge of Dr. Carl L. Nordly, formerly a famous Carleton athlete, later a teacher of physical education and assistant athletic coach at Carleton, also at one time physical director in the Rochester, Minnesota, schools.

The University has entered into this co-operation because it believes that recreational programs will assume greater importance in the future and that they should be based upon an intelligent study of the facts in each community. In view of the difficulty which young people experience in securing employment and also because many of the forms of entertainment which they once engaged in are no longer available, the University is of the opinion that wholesome recreation under proper supervision and direction may serve not only as a temporary substitute for employment but prove to be one of the most profitable character training agencies of a community.

## ATHLETIC ENDOWMENT FUND

It has been our opinion at Minnesota for some time that we could help to realize this ideal if the college sports were endowed. With this in mind the Regents of the University on March 6, 1936, adopted the following resolution:

Noting with interest that some universities have already taken steps to endow intercollegiate sports and that a number of others are considering doing the same thing, believing fully that the physical education and sports program of the University should not be dependent permanently upon the receipts of games, and believing at the same time that the promotion and encouragement of a sound physical education program and of sports are desirable and will represent permanent features of the educational work of any well-organized university

The Regents of the University do hereby resolve

1. That not less than sixty per cent (60%) of any net income accruing in the Intercollegiate Athletic Fund shall on June 30, 1936, and each June 30 thereafter, be placed in a Physical Education and Athletic Fund to accumulate for the further support of the physical education program for both men and women, the intramural sports program for men and women, and such intercollegiate sports as the University may decide to maintain,

2. That not less than forty per cent (40%) of any net income accruing in the Intercollegiate Athletic Fund shall on June 30, 1936, and each June 30 thereafter, be placed in an Athletic Reserve Fund for emergency and contingency purposes, until such time as there is established and maintained a \$40,000 reserve fund, provided, that on any June 30 when the reserve fund amounts to \$40,000 any sum in excess of the \$40,000 reserve fund shall be added to the principal of the Physical Education and Athletic Endowment Fund, and

3. That the principal of the Physical Education and Athletic Endowment Fund so established shall be invested and held intact and that the interest from this fund shall be added to the principal, provided, however, that the income may be used for operating and other purposes in case some emergency arises.

## GIFTS

Listed for 1934-35, page 79

Listed for 1935-36, page 88

## GIFTS, 1934-35

### SUMMARY OF CASH GIFTS

Description	No.	Amount	Total
Loan funds			
New .....	3	\$ 570.15	
Additions to old .....	9	1,657.00	
			\$ 2,227.15
Scholarships			
New .....	5	783.90	
Additions to old .....	12	1,605.00	
			2,388.90
Fellowships			
New .....	0		
Additions to old .....	6	12,995.00	
			12,995.00
Prizes			
New .....	2	165.00	
Additions to old .....	23	1,017.00	
			1,182.00
Research and experiment			
New .....	12	27,120.00	
Additions to old .....	13	18,320.45	
			45,440.45
Miscellaneous			
New .....	8	4,782.33	
Additions to old .....	4	460.00	
			5,242.33
			\$69,475.83

#### LOAN FUNDS

##### *New*

\$	283.37	From the Council of Jewish Women for the establishment of the Bertha Weiskopf Loan Fund for Jewish students.
	200.00	From the Minnesota Book Store for the establishment of a loan fund for students.
	86.78	From Max Toltz, to establish a loan fund for students in engineering.
\$	570.15	

## THE PRESIDENT'S REPORT

*Additions to Previous Gifts*

\$ 600.00	From the Law Alumni Association for the Law Alumni Loan Fund.
300.00	Class of 1902 Loan Fund.
175.00	Agricultural Faculty Women's Club Loan Fund.
175.00	Law Faculty Scholarship and Loan Fund, from Joseph C. Hutcheson, Jr.
132.00	General Student Loan Fund
	\$100.00 Ramblers Club of Minneapolis
	32.00 Miss Myra Ward and Dr. Percy Ward (with the understanding that this gift may later be set aside as a separate fund to be known as the Charles and Jessie Ward Fund).
100.00	Women's Auxiliary of Minneapolis Dental Society Loan Fund.
100.00	From Women's Self-Government Association for General Student Loan Fund.
50.00	From Mothers and Wives Club, Sigma Alpha Mu, for the Anna R. Goldberg Loan Fund.
25.00	Gopher 4-H Club Loan Fund.

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\$ 1,657.00

## SCHOLARSHIPS

*New*

\$ 483.90	Wilder Memorial Fund, a scholarship fund to honor the memory of the late Lucretia Wilder, research biologist.
100.00	From the Northwest Daily Press Association for the establishment of an annual journalism scholarship.
100.00	P. E. O. Scholarship. Additional scholarship for 1934-35.
50.00	From the Agricultural Faculty Women's Club, to provide for a scholarship for a farm girl in the Central School of Agriculture.
50.00	From the Minneapolis Women's Advertising Club, for the establishment of an annual scholarship to be awarded to a senior woman in the School of Business Administration.

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\$ 783.90

*Additions to Previous Gifts*

\$ 250.00	From International Live Stock Exposition for Pullman Company Scholarship.
250.00	Florence A. Brewster Scholarship (1935-36).
250.00	Henry Webb Brewster Scholarship (1935-36).
200.00	St. Paul College Women's Club Scholarships.
105.00	Minnesota State Pharmaceutical Scholarship (1935-36).
100.00	P. E. O. Scholarship.
100.00	Marion L. Vannier Scholarship.
100.00	Minnesota Home Economics Association Freshman Scholarship (1935-36).
100.00	Agricultural Faculty Women's Club Scholarship (1935-36).
50.00	Home Economics Association Scholarship (1935-36).
50.00	Phi Beta of Mu Phi Epsilon Scholarship.
50.00	Gisle Bothne Scholarship of the Delta Sigma Psi (1935-36). (Formerly Delta Sigma Psi Scholarships.)

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\$ 1,605.00

## FELLOWSHIPS

*Additions to Previous Gifts*

\$ 5,550.00	Minneapolis General Hospital Fellowship, for the continuation of twelve fellowships and five instructorships for the period of January 1 to June 30, 1935. (Fellowships reported for 1933-34 were for calendar year 1934.)
4,845.00	American Dry Milk Fellowship.
1,000.00	National Research Council—Livestock and Meat Board Fellowship.
750.00	American Creosoting Company Fellowship, for the period of July 1 to December 31, 1934.
600.00	From the Dairy and Ice Cream Machinery and Supplies Association, Inc., for a research fellowship in the Division of Dairy Husbandry.
250.00	Fellowship for Graduate Students in Social Work.

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\$12,995.00

## PRIZES

*New*

\$ 100.00	From the University of Minnesota Press for student library contest prizes in books.
65.00	From the Minnesota Book Store for three prizes of \$35, \$20 and \$10, to be awarded to university undergraduates for editorials or articles on current affairs written during the period March 15 to May 15, 1935.

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\$ 165.00

## THE PRESIDENT'S REPORT

*Additions to Previous Gifts*

\$	175.00	Pillsbury Debate Prizes.
	100.00	Peavey Prizes.
	100.00	Charles Lyman Green Prize in Physiology.
	100.00	Southern Minnesota Medical Association Prize.
	75.00	American Society of Mechanical Engineers' Prize.
	50.00	Louise M. Powell Prize.
	50.00	Phi Upsilon Omicron Prize (1935-36).
	50.00	Gargoyle Club Prizes (books).
	46.00	American Society of Civil Engineering Prize (handbook and fees).
	40.00	Northern States Power Company Prize.
	30.00	Alpha Alpha Gamma Prize (books).
		\$15.00 1933-34
		15.00 1934-35
	27.00	School of Chemistry Faculty Prize (books).
	25.00	Lambda Alpha Psi Prize.
	25.00	Pi Beta of Chi Omega Prize.
	25.00	Delta Sigma Rho Prize in Extemporaneous Speaking.
	25.00	Tau Beta Pi Prize.
	15.00	Phi Lambda Upsilon Prize.
	15.00	Thomas F. Andrews Undergraduate Research Prize.
	10.00	Alpha Chi Sigma Twin City Alumni Association Prize (books).
	10.00	Alpha Kappa Gamma Prize in Dental Hygiene.
	8.00	Pi Tau Sigma Prize in Mechanical Engineering (books).
	8.00	Chi Epsilon Prize (handbook).
	8.00	Eta Kappa Nu Prize in Electrical Engineering (book).

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\$ 1,017.00

## RESEARCH AND EXPERIMENTS

\$20,000.00	From the Carnegie Corporation of New York, to be used toward the support of the program of the General College.
1,500.00	From Professor Frank F. Grout, Department of Geology, subvention of the Council of the Geological Society of America, for the continuation of the Rock Analysis Laboratory.
1,500.00	From Minnesota and Ontario Paper Company for research in paper pulp manufacture by the sulphite and Kraft processes.
1,000.00	From United Fruit Company, for a research in nutrition under the direction of Dr. Irvine McQuarrie.
870.00	From the American Soya Products Corporation, to establish a research fellowship for conducting an investigation of the effect of soya bean products as related to processes involved in bread making.
500.00	From the National Research Council for clerical and statistical assistance for Professor Wilson D. Wallis, in connection with his study of anatomic lag.
500.00	From the American Medical Association for research on the coronary flow and lesions of the aortic valve, by Dr. Jay C. Davis.
300.00	From the National Research Council, to be used by Professor Frank F. Grout in connection with his study of the mechanics of igneous action.
300.00	From the National Research Council for study of early pre-Cambrian sedimentary and igneous rocks, under the direction of Dr. Gordon Rittenhouse.
250.00	From the American Academy of Arts and Sciences, for an investigation of the proper motions of faint stars in the southern hemisphere.
200.00	From Sigma Xi, for the Sigma Xi Astronomical Research Fund, to be used for studies of the proper motions of faint stars.
200.00	From the American Medical Association for research in physiology, under the direction of Dr. Dean A. Collins.

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\$27,120.00

## THE PRESIDENT'S REPORT

*Additions to Previous Gifts*

- \$ 7,900.00 From the Citizens Aid Society, for the Cancer Institute Research Fund.  
 3,600.00 From the American Society of Heating and Ventilating Engineers, for a co-operative investigation of the thermal conductivity of concrete masonry.  
 3,000.00 From the Carnegie Foundation for the Advancement of Teaching, supplementary grant for a research conference, nation-wide in its scope, on problems, techniques, and results of research on higher education in various universities.  
 1,000.00 From the Firestone Plantations Company for the Firestone Fund.  
 600.00 From Eli Lilly and Company, for Dr. Hirschfelder's investigations of the efficiency and penetration of antiseptics and investigations of the effects of variations in magnesium in the body.  
 500.00 From Minnesota State Pharmaceutical Association Research.  
 482.45 From the members of the Minnesota District of the American Association of Medical Social Workers, for the Medical Social Work Fund.  
 418.00 For the Fox Breeders Distemper Research Fund  
     \$168.00 Rockridge Company  
        50.00 20th Century Fox Farm  
        10.00 Toland Fox Farms  
        90.00 Springdale Silver Fox Farms  
        100.00 Springdale Silver Fox Farms.  
 300.00 From Sigma Xi, for the Sigma Xi Lead Sulfate Research.  
 250.00 From the National Academy of Sciences (Gould Fund) for continuation of research by Professor Willem Luyten on measurements of the Harvard Plates.  
 200.00 From American Medical Association, Council on Pharmacy and Chemistry, for research on relation of iodine to goiter.  
 60.00 For the Coffman Educational Research Foundation  
     \$ 5.00 N. Walker Wright  
     10.00 Dora V. Smith  
        5.00 W. S. Miller  
     10.00 Mrs. W. E. Peik  
     10.00 Dora V. Smith  
     10.00 W. E. Peik  
        5.00 W. S. Miller  
        5.00 N. Walker Wright  
 10.00 From Thomas L. Daniels, for the International Relations Project.

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 \$18,320.45

## MISCELLANEOUS

- \$ 1,000.00 From the Kappa Kappa Gamma Fraternity, to endow a bed in the University of Minnesota Hospitals in memory of Alice Tillotsen Barney, former grand president.
- 700.00 From the Hennepin County Tuberculosis Association, for preparation of a moving picture film on modern methods of control of tuberculosis.
- 698.25 For the Medical School Endowment Fund, turned over to the University by Dr. Richard Olding Beard, and payments made on pledges.
- \$518.25 turned over by Dr. Beard
- 100.00 Dr. J. F. Corbett
- 20.00 E. A. Hedberg
- 20.00 Mary Fetter
- 20.00 Dr. C. A. Soffert
- 20.00 Dr. Paul C. Seversen.
- 800.00 From All-University Student Council to apply on purchase of a complete addressograph system for Alumni Directory office.
- 600.00 Twin City Jewish-American Lectureship Fund
- \$50.00 Mr. Roy B. Cohen
- 50.00 Mr. Benjamin Friedman
- 50.00 Mrs. Bernice Ruben
- 50.00 Mr. Joseph Paper
- 50.00 Mr. Harry B. Davis
- 50.00 Mr. George B. Leonard
- 50.00 Mr. J. E. Brill
- 50.00 Mr. Leonard D. Cohen
- 50.00 Mr. Arthur Brin
- 50.00 Mr. Amos Deinard
- 25.00 Mr. Meyer S. Cohen
- 25.00 Mr. James Neiger
- 25.00 Mr. I. Sommerfield
- 25.00 Mr. A. T. Shapiro.
- 400.00 From Colonel Ralph H. Isham, to be applied toward the purchase of a set of the *Boswell Papers* for the library.
- 224.08 From graduates in forestry from 1926 to 1934, to establish the Henry Schmitz Arboretum.
- 200.00 For four Romance languages lectures, from an anonymous donor.
- 85.00 From the class of 1935, West Central School and Station, Morris, for additional stage equipment for the auditorium.
- 50.00 From the Minnesota Public Health Association, to establish an annual lectureship, to be known as the Harold S. Boquist Memorial Lectureship.
- 25.00 From Mr. I. Hesdorffer, for the purchase of a glass boot to be used by Dr. M. H. Manson in research on treatment of arteriosclerosis.

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\$ 4,782.33

## THE PRESIDENT'S REPORT

From Miss Josephine L. Merriam by trust agreement, the following properties, the net income from which is to be used, \$5,000 per year to Miss Merriam as an annuity for life, and the balance as a student loan fund for male students at the University; or, if the regents so decide, for some other purpose which may be found in the future to be more desirable:

Kewanis Court Apartments, 600 West Franklin  
 Coolidge Hall Apartments, 2216 Garfield Ave. S.  
 Grandview Apartments, 1801 Second Ave. S.  
 Carlyle Apartments, 15 West 22nd Street  
 Land on corner of Marquette Avenue and Sixth Street South,  
 125 feet on Marquette and 50 feet on Sixth Street, leased to the  
 Northwestern Bank Building Company

Provisions in the will of the late Sophia Modrzewski which provide for the establishment of a fund for the benefit of Polish students in the University of Minnesota, to be distributed by the Polish National Alliance, Chicago, Illinois.

*Additions to Previous Gifts*

\$ 200.00	From Dr. E. Starr Judd, for the Judd Lectureship in Medicine and Surgery.
200.00	From Mrs. Adelle C. Melendy, for the F. J. Wulling Trust Fund.
50.00	From Xi Chapter of Phi Beta Pi, for the Clarence Martin Jackson Lectureship Fund.
10.00	Alumni Service Fund, from an anonymous donor.

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\$ 460.00

## PATENTS

Assignment by Lew W. Cornell and Ralph E. Montonna of their invention for alpha-cellulose products and process for making the same.

## MISCELLANEOUS GIFTS

An airplane engine and a Wright engine from the Air Corps of the Minnesota National Guard, for the College of Engineering and Architecture.

Telephone and radio equipment from the Western Electric Company, for the College of Engineering and Architecture.

A fare and ticket register, from the Twin City Rapid Transit Company, for the College of Engineering and Architecture.

Paintings, prints, etchings, lithographs, and wood cuts from the Public Works Administration.

A portrait of the late Henry B. Hovland, a former regent.

An oil painting, "Portrait of a Little Girl," from Elof Wedin.

A portrait of the late Emil Oberhoffer from Mrs. Oberhoffer, for the Music Department.

Publications and records from the personal collection of the late Dr. J. Arthur Harris, from Mrs. Emma Lay Harris.

Notebooks and other material which belonged to the late Oscar W. Firkins, from Miss Ina Firkins.

A Cambridge Pickering edition of the Works of William Shakespeare, for the Arthur Upson Room of the University Library, bequest of the late Tamazine M. Evans.

A copy of *Harry Wearne* from the Thomsen-Ellis Company, for the University Library.

Six volumes of *Diplomatic Correspondence of the American Revolution* from Reverend Marion D. Shutter, for the library.

Library of the Commission on Social Studies in the Schools, from the Executive Committee of the American Historical Association, for the library.

22,846 gifts for the library from 4,954 donors.

Cattle branding equipment from the Federal Surplus Relief Corporation for the Division of Agricultural Engineering.

Collection of drawings by the late LeRoy S. Buffington from Mrs. W. T. Walker and Miss Ella Buffington, for the library.

Gold key from Delta Sigma Pi to be awarded annually in spring quarter to the male senior in the School of Business Administration having the highest scholastic average.

Wolf experimental mill from the Mennel Milling Company, Toledo, Ohio, for Agricultural Biochemistry.

## GIFTS, 1935-36

## SUMMARY OF CASH GIFTS

Description	No.	Amount	Total
Loan Funds			
New .....	0		
Additions to old .....	6	\$ 1,834.50	
		<hr/>	\$ 1,834.50
Scholarships			
New .....	5	4,018.39	
Additions to old .....	14	2,230.00	
		<hr/>	6,248.39
Fellowships			
New .....	3	8,544.00	
Additions to old .....	8	22,377.00	
		<hr/>	30,921.00
Prizes			
New .....	0		
Additions to old .....	22	1,317.00	
		<hr/>	1,317.00
Research and experiment			
New .....	9	36,200.00	
Additions to old .....	9	22,908.55	
		<hr/>	59,108.55
Miscellaneous			
New .....	9	12,134.64	
Additions to old .....	4	746.00	
		<hr/>	12,880.64
			<hr/>
			\$112,310.08

## LOAN FUNDS

*Additions to Previous Gifts*

\$ 1,550.00	Law Alumni Loan Fund.
100.00	Woman's Auxiliary of Minneapolis Dental Society Loan Fund.
85.00	Minneapolis Women's Advertising Club Loan Fund.
40.00	Anna R. Goldberg Loan Fund, Mothers and Wives Club, Sigma Alpha Mu.
30.00	Bertha Weiskopf Loan Fund.
25.00	Julia Hess Student Loan Fund.
4.50	Students' Student Loan Fund.

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\$ 1,834.50

## SCHOLARSHIPS

*New*

- \$ 3,553.39 Margaret Smith Hunt Scholarship Fund. Residue in the estate of Margaret E. Hunt, bequeathed to the University to establish one or more scholarships.
- 225.00 From Mary G. Fanning for Maria Sanford Memorial Scholarship.
- 100.00 Annually, from Board of Associated Business Students for two scholarships of \$50 each.
- 90.00 Undergraduate Scholarship in Philosophy, from an anonymous donor, to be awarded to a senior in the Department of Philosophy on the basis of excellence in philosophical studies and academic rank generally.
- 50.00 From Alpha Tau Delta, to establish an annual scholarship in honor of Esther M. Thompson.

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\$ 4,018.39

*Additions to Previous Gifts*

- \$ 550.00 Law Faculty Scholarship and Loan Fund.
- 300.00 Faculty Women's Club, Student Section, Scholarship.
- 250.00 Pullman Company Scholarship from International Live Stock Exposition.
- 125.00 Florence A. Brewster Scholarship (1936-37).
- 125.00 Henry Webb Brewster Scholarship (1936-37).
- 105.00 Minnesota State Pharmaceutical Scholarship (1936-37).
- 100.00 Sigma Theta Pi Scholarship.
- 100.00 American Legion Auxiliary Scholarship (1935-36).
- 100.00 Minnesota Home Economics Association Freshman Scholarship (1936-37).
- 100.00 P. E. O. Scholarship.
- 100.00 Marion L. Vannier Scholarship.
- 100.00 Northwest Daily Press Association Journalism Scholarship.
- 50.00 Minneapolis Women's Advertising Club Scholarship Fund.
- 50.00 Home Economics Association Scholarship (1936-37).
- 50.00 Phi Beta of Mu Phi Epsilon Scholarship.
- 25.00 Gisle Bothne Scholarship of Delta Sigma Psi.

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\$ 2,230.00

## THE PRESIDENT'S REPORT

## FELLOWSHIPS

*New*

- \$ 5,000.00 From Alexander P. Anderson, first payment on a gift of \$25,000 to establish the Alexander P. Anderson and Lydia Anderson Fellowship, to be awarded to one or more University of Minnesota graduates for advanced work in the biological sciences.
- 2,119.00 Charles Peter Sigerfoos Fellowship in Zoology Fund, to establish one or more fellowships for graduate students in zoology
- \$1,319.00 Students, friends, and colleagues of Dr. Charles P. Sigerfoos.
- 500.00 Pan Hellenic Council
- 200.00 Committee on Salary Contributions
- 100.00 Minnesota Chapter, Society of Sigma Xi.
- 825.00 From Dr. Frank E. Burch, to re-establish the Miller Hospital Fellowship.
- 600.00 From the Rohm & Haas Company, to establish a research fellowship relative to the use of tertiary butyl alcohol as an insect fumigant.

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\$ 8,544.00

*Additions to Previous Gifts*

- \$14,150.00 Minneapolis General Hospital fellowships, for the continuation of twelve fellowships and five instructorships, and for three additional instructorships, one in medicine, and two in neuropsychiatry, for the period July 1, 1935 to June 30, 1936.
- 3,300.00 American Dry Milk Institute Fellowship (\$1,600 for 1936-37).
- 1,620.00 American Soya Products Corporation Fellowship.
- 1,000.00 National Research Council and National Livestock Fellowships.
- 900.00 American Creosoting Company Fellowship.
- 500.00 Minnesota State Pharmaceutical Association Fellowship (1936-37).
- 750.00 du Pont Fellowship.
- 157.00 Fellowship for Graduate Students in Social Work.

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\$22,377.00

## PRIZES

*Additions to Previous Gifts*

\$ 200.00	Charles Lyman Green Prize.
175.00	Pillsbury Debate Prizes.
100.00	Agricultural Faculty Women's Club (1936-37).
100.00	Peavey Prizes.
100.00	Minnesota Academy of Medicine Prizes.
100.00	Southern Minnesota Medical Association Prize.
75.00	American Society of Mechanical Engineers Prizes.
65.00	Minnesota Book Store Prize Contest.
50.00	Louise M. Powell Prize.
50.00	Phi Upsilon Omicron Prize (1936-37).
50.00	Lambda Alpha Psi Prizes.
50.00	Gargoyle Club Prizes (books).
46.00	American Society of Civil Engineering Prize (handbook and fees).
26.00	School of Chemistry Faculty Prize (books).
25.00	Pi Beta of Chi Omega Prize.
25.00	Tau Beta Pi Prize.
15.00	Phi Lambda Upsilon Prize.
15.00	Northern States Power Prize.
15.00	Alpha Alpha Gamma Prize (books).
10.00	Alpha Kappa Gamma Prize in Dental Hygiene.
10.00	Alpha Chi Sigma Twin City Alumni Association Prize (books).
8.00	Chi Epsilon Prize (books).
7.00	Eta Kappa Nu Prize in Electrical Engineering (book).

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\$ 1,317.00

## RESEARCH AND EXPERIMENTS

*New*

- \$25,000.00 From General Education Board, annually for three years, to support (1) a study of the needs, abilities, and other important characteristics of late-adolescent boys and girls, and (2) a definition of the aims and functions of general education and a critical appraisal of the work of the General College.
- 2,500.00 From the Rockefeller Foundation, for research on the fundamental nature of lipid metabolism, under the direction of Professor George O. Burr.
- 2,000.00 From the Smith, Kline and French Laboratories for a study of the prevention of the common cold by Dr. H. S. Diehl.
- 2,000.00 \$500 monthly from the Northwest Research Foundation to conduct an investigation of manganese ores in South Dakota under the general direction of Mr. L. H. Reyerson.
- 1,500.00 From milk dealers tributary to the Twin Cities, to carry on a survey relative to bacterial count in milk and cream being furnished Minneapolis consumers.
- 1,000.00 From the Rockefeller Foundation, for research in carrying out the experimental aspects of Professor McClendon's work with the use of the ultracentrifuge, by Dr. Harold P. Lundgren in Professor Swedberg's laboratory in Upsala, Sweden.
- 1,000.00 From the Organic Sea Products Corporation for a study of the value of sea plants in the diet of animals living far inland, under the direction of Dr. George O. Burr.
- 900.00 From the National Advisory Committee for Aeronautics for research on the developments and experimentation with lightweight radio recording apparatus for use with high altitude meteorological sounding balloons.
- 300.00 From Mead Johnson Company for a study of fat digestion and excretion in cases of chronic intestinal indigestion or celiac disease, by Dr. Rood Taylor.

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\$36,200.00

*Additions to Previous Gifts*

\$11,000.00	Carnegie Foundation Research Fund, for support of studies in graduate instruction.
7,900.00	Cancer Institute Research Fund.
1,500.00	For the Rock Analysis Laboratory.
1,000.00	The Firestone Fund.
501.05	Medical Social Work Fund.
500.00	American Creosoting Company Research Fund.
315.00	Fox Breeders' Distemper Research
	\$150 The Rockridge Co.
	150 Nieman-Rockridge Co.
	15 Harold Toland.
100.00	Sigma Xi Astronomical Research.
92.50	Coffman Educational Research
	\$60.00 L. D. Coffman
	15.00 R. J. Bradley
	10.00 Alice E. Smith
	7.50 M. E. Haggerty.

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\$22,908.55

## MISCELLANEOUS

*New*

\$ 5,520.00	\$13,250 annually from the United States Public Health Service, effective February 1, 1936, for a Public Health Training Center. To aid in the expansion of the present facilities for professional training in public health in order that the University might serve as a regional training center under the Social Security Act.
4,000.00	Professorship in School of Business Administration, from the Rockefeller Foundation. To be used toward the salary of Professor Eugen Altschul. \$2,000 each year 1936-37 and 1937-38.
1,200.00	Minneapolis General Hospital Pediatrics Directorship. To supplement salary of Dr. Albert V. Stoesser, to become chief of the Minneapolis General Hospital Department of Pediatrics, July 1 to June 30, 1936.
600.00	From an anonymous donor for two part-time assistantships in the Medical School.
567.60	From the Andrew Boss Memorial Fund to establish the Andrew Boss Library Fund.
197.04	From the class of 1936 of the School of Agriculture to provide lighting fixtures for the auditorium at University Farm.
20.00	To the Extension class budget, honorariums for lectures
	\$10 A. F. Meyer
	10 D. F. Johns.
20.00	From the Dairy Foods Company for the Department of Physiological Chemistry in appreciation of the work of that department.
10.00	From Crippled Child's Relief, for the purchase of toys for the children in the University of Minnesota Hospitals.

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\$12,134.64

*Additions to Previous Gifts*

\$ 425.00	Twin City Jewish-American Lectureship Fund
	\$75 Jack Savlan
	50 Samuel Maslon
	50 A. H. Heller
	50 B. J. Bechhoefer
	50 Leo Harris
	50 E. R. Ruben
	25 A. B. Levy
	25 Edwin B. Baer
	25 Hattie Harris
	25 Caroline G. Bechhoefer.
200.00	Judd Lectureship Fund.
76.00	Wilder Memorial Fund.
45.00	Medical School Endowment Fund.
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\$ 746.00	

## MISCELLANEOUS GIFTS

Approximately 1,520 acres of land in Crow Wing County, Minnesota, from John H. Rishmiller; also residue of the estate of John H. Rishmiller after his death and after just debts and funeral expenses are paid, the estate consisting largely of stocks and bonds. Fund to be known as the John H. Rishmiller Scholarship and Loan Fund. The capital behind the loan fund to accumulate until the property and loan fund are worth by conservative estimation \$40,000, when the income may be used both in making loans and as a source of scholarships to worthy students attending the University of Minnesota.

Models of the chest from Dr. S. A. Weisman for the Medical School.

Bound copies of *Farm, Stock and Home* from 1898 to 1928, to the University Farm library from the Webb Publishing Company.

Rowboat from First Student Corporation of the Terrestrial and Fresh Water Biological Station, Itasca.

Oil portrait of the late George H. Partridge, a former regent, from his daughters, Mrs. J. G. Ordway and Mrs. Curtis Griffith Noble.

396 volumes and 992 pamphlets to the law library from Mrs. J. B. Gilfillan.

Two specimens of Society Island plants for the herbarium from Captain Charles P. McKenzie.

Portrait of John Nicols, regent of the University from 1868 to 1873, from Mrs. R. McClelland Brady and Mrs. Mabel N. Wilson, daughters.

Collection of paintings to the Home Economics Division, from Miss Henrietta Clopath.

Well at Itasca Park Forestry Station from the 1935 Freshman Corporation.

Collection of books and prints from the Carnegie Corporation of New York to the University Art Gallery.

A framed water color by William Sommer to the University Art Gallery from Mr. William M. Milliken, director, Cleveland Museum of Art.

*Talking Book* from the Faculty Women's Club to the University of Minnesota Hospitals.

Dodge chassis from the Chrysler Corporation for Experimental Engineering Laboratories.

Oil portraits of Mr. and Mrs. Dean Keyes from the late Jennie K. Merriam. Variable pitch propeller mechanism from the Pratt and Whitney Aircraft Corporation, for the Department of Aeronautical Engineering.

Four portraits of President Coffman from the class of 1936 of the School of Agriculture, one for the library of University Farm, one for the president's home, one for Dean Coffey, and one for Superintendent Christianson.

14,161 gifts for the library from 4,954 donors.

## UNIVERSITY PERSONNEL

Retirement and Insurance Plan Changes, page 99

Distinguished Service Professorship, page 99

Charles Peter Sigerfoos Research Fellowship in Zoology, page 99

Recognition of Retiring Members of the Staff, page 100

Changes in the Faculties, page 103

Resignations, page 103

Appointments, page 104

Promotions, page 106

Leaves of Absence, page 109

Deaths, page 112

## RETIREMENT AND INSURANCE PLAN CHANGES

The retirement plan in effect prior to July 1, 1935, included the president, deans, professors, and associate professors and provided for allotments from current university funds to supplement Carnegie allowances or as a substitute for Carnegie allowances in the cases of those not eligible for them. Beginning July 1, 1935, retirement allowances were established for assistant professors, instructors, and nonacademic staff members receiving \$3,000 per year or more. The Regents also provided for a gradual partial funding of this retirement obligation against current funds by offering to purchase jointly with those eligible, annuity contracts up to the maximum of the university supplement or allowance. As a result of this change the University will within the next ten or fifteen years be relieved of this charge against current funds and most of the individual staff members will have their retirement allowances on a contractual basis.

## DISTINGUISHED SERVICE PROFESSORSHIP

The first distinguished service professorship ever created by the University is now held by Dr. Richard E. Scammon who was formerly dean of medical sciences. During the thirty years that Dr. Scammon has been a member of the staff of the University of Minnesota, he has made for himself an international reputation in many fields of research. The new professorship will permit him to pursue his research and teaching free from administrative duties.

## CHARLES PETER SIGERFOOS RESEARCH FELLOWSHIP IN ZOOLOGY

The associates of the staff and former students of Dr. Sigerfoos have established the Charles Peter Sigerfoos Research Fellowship in Zoology, the income from which will be used to pay for a fellowship to send one or more zoology students to the seashore or to tropical places to study aspects of zoology that are not available at a place as far inland as the University of Minnesota.

No better way could be found for perpetuating the cultural work which Dr. Sigerfoos did at the University than to establish a fellowship in his honor. For thirty-eight years he was a teacher at this institution. Thousands of students were taught by him, and the appreciation which they have had for him has ripened into an affection with the passing of the years. The fellowship, therefore, is a fitting recognition of the unselfish service which Dr. Sigerfoos gave to his students and to the University, and above all, it will help to perpetuate the importance of good teaching, fine fellowship, and a personal interest in students—qualities so essential and so difficult to find in any one teacher—all of which, however, were ever present in Dr. Sigerfoos.

## RECOGNITION OF RETIRING MEMBERS OF THE STAFF

For years the University has been searching for a way in which to pay adequate tribute to retiring members of the staff without following the practice of conferring honorary degrees. The weakness of this traditional method of recognition lies in the fact that if all those who deserve recognition in such manner were rewarded the degree would tend to lose its significance through the sheer volume of awards. Furthermore, it has been the practice at the University of Minnesota to limit closely the number of honorary degrees. Nevertheless, it seemed desirable that some special recognition should be given to retiring members of the staff. The University, therefore, adopted a plan which is set forth in the following statement which was read at the June commencement exercises in 1936:

"The quality of a University is determined not by its buildings nor by the size of its student body, but by the scholarship and teaching ability of its staff. The University of Minnesota like other institutions of higher learning has attained distinction through the men and women on the faculty who have diligently extended the frontiers of knowledge and who have long and faithfully instructed and inspired students. Each Commencement a number of these 'builders of the name,' rich in years and work well done, retire to devote their time to new and untried ventures in living.

"During the next eight years, eighty-two members of the staff now holding important positions will pass on the torch to younger men and women. Together with others who have retired in recent years, this group has made the University what it is today. Whatever scholarly contributions have emanated from the campus have come because of their devotion to scholarship and their encouragement to students and younger colleagues. Whatever contributions the University has been able to make to the higher life of the state and the nation have resulted directly from their stimulating instruction, their indefatigable labors, and their continuous insistence upon high standards of scholarship.

"Whether the University will continue to make such noteworthy and scholarly contributions, whether it will continue to provide effective educational leadership, and whether it will maintain its position of eminence depend in the future as in the past upon the quality of the faculty. No more important task faces the University than that of selecting its staff. In this it must move with wisdom and courage. Otherwise, all that has been built up through previous generations may be lost and the University will forfeit the prestige it now enjoys and fail to perpetuate its unique quality as an institution worthy of the name of a university.

"We pause for a moment in these commencement exercises dedicated to youth to recognize another significant commencement for those who are retiring from the staff this year; we pause to honor them. May they look back upon their years of service with deep satisfaction and well-deserved pride in the contributions they have made in developing the University of Minnesota. May they look forward to many years pleasantly passed in doing the things they have always desired to do when freed from university obligations. It is with gratitude for what

they have done and affection for what they are that we honor the following retiring members of the full-time staff:"

Andrew Boss

Farm foreman .....	1890	1902
Instructor in agriculture .....	1892	1894
Assistant professor .....	1894	1902
Associate professor .....	1902	1905
Professor of agriculture and animal husbandry; acting chief of the Division of Animal Husbandry .....	1905	1909
Professor of agriculture and farm management .....	1909	1936
Chief of the Division of Agronomy and Farm Management .....	1909	1926
Chief of the Division of Farm Management, Agronomy, and Plant Genetics .....	1926	1928
Vice-director of the Agricultural Experiment Station .....	1917	1936

Louis Joseph Cooke

Gymnasium director .....	1897	1913
Associate professor and physical director for men .....	1913	1922
Associate professor and assistant director of the Department of Physical Education and Athletics .....	1922	1932
Professor of physical education and athletics for men and assistant director of athletics for men .....	1932	1936

Charles Andrew Erdmann

Student assistant in anatomy .....	1890	1893
Demonstrator of anatomy .....	1893	1894
Demonstrator of anatomy and assistant in medicine .....	1894	1898
Assistant professor and demonstrator of anatomy .....	1898	1899
Professor of anatomy .....	1899	1909
Professor of gross and applied anatomy .....	1909	1913
Associate professor of applied anatomy .....	1913	1936

William Paul Kirkwood

Associate professor and editor of bulletins, College of Agriculture, Forestry, and Home Economics .....	1914	1918
Professor and editor, Division of Publications, College of Agriculture, Forestry, and Home Economics .....	1918	1931
Professor and editor, Division of Publications, College of Agriculture, Forestry, and Home Economics, and professor, Department of Journalism, College of Science, Literature, and the Arts .....	1931	1936

Elias Potter Lyon

Dean of the Medical School and professor and head of the Department of Physiology .....	1913	1936
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Frederick Maynard Mann

Professor and head of the School of Architecture .....	1913	1936
University advisory architect for the Board of Regents .....	1925	1936

Joseph Brown Pike

Assistant in Latin .....	1890	1892
Instructor in Latin .....	1892	1896
Assistant professor of Latin .....	1896	1899
Professor of Latin .....	1899	1903
Professor and head of the Department of Latin .....	1903	1934
Professor of classics .....	1934	1936

Charles Albert Savage

Instructor in Latin .....	1899	1903
Assistant professor of Latin and Greek .....	1903	1909
Professor of Greek .....	1909	1936

Arthur Carlton Smith		
Professor of poultry husbandry .....	1912	1916
Professor and head of the Division of Poultry .....	1916	1918
Professor and chief of the Division of Poultry Husbandry .....	1918	1936
Andrew Joseph Weiss		
Instructor in prosthetic dentistry and orthodontia .....	1900	1936
Norman Wilde		
Instructor in philosophy .....	1898	1900
Assistant professor of philosophy .....	1900	1902
Acting professor and head of the Department of Philosophy.....	1902	1903
Professor of philosophy .....	1903	1936
Frederick John Wulling		
Dean of the College of Pharmacy and professor of pharmacology .....	1892	1936
Director of medicinal plant gardens .....	1912	1936
Jeremiah Simeon Young		
Assistant professor, Department of Economics .....	1909	1913
Associate professor of political science .....	1913	1915
Professor of political science .....	1915	1936
<p>"In like honor and affection we associate with the above group the following members of the staff who are closing a long period of distinguished service to the University on a part-time basis:"</p>		
Miss Miriam Eliza Carey		
Instructor, Division of Library Instruction .....	1930	1936
Dr. James Trent Christison		
Clinical instructor in pediatrics .....	1895	1901
Clinical professor of pediatrics .....	1901	1906
Professor of pediatrics .....	1906	1913
Professor emeritus of pediatrics .....	1913	1914
Associate professor of pediatrics .....	1914	1936
Judge Bert Fesler		
Special lecturer, legal ethics .....	1918	1936
Dr. James Sterling Gilfillan		
Assistant in clinical medicine .....	1903	1908
Clinical instructor in medicine .....	1908	1910
Clinical professor of medicine .....	1910	1913
Assistant professor of medicine .....	1913	1915
Associate professor of medicine .....	1915	1936
Dr. Thomas Bradford Hartzell		
Instructor in histology .....	1890	1894
Instructor in comparative dental anatomy and physical diagnosis and assistant in Oral Surgery Clinic .....	1894	1896
Professor of comparative dental anatomy, physical diagnosis, and oral surgery .....	1896	1920
Research professor in mouth infections .....	1913	1914
Lecturer in Department of Medicine .....	1920	1936
Dr. Charles Horace Mayo		
Professor of surgery, Mayo Foundation .....	1915	1936
Professor of surgery .....	1919	1936
Dr. Albert Miller		
Instructor in radiology, Mayo Foundation .....	1923	1936

Dr. John Thomas Rogers			
Clinical instructor in pediatrics .....	1895	1897	
Clinical instructor in surgery .....	1897	1901	
Professor of clinical surgery .....	1901	1913	
Assistant professor of surgery .....	1913	1916	
Associate professor of surgery .....	1916	1936	
Dr. John Lincoln Rothrock			
Instructor in pathology .....	1895	1902	
Clinical instructor in pathology and gynecology .....	1902	1904	
Clinical professor of gynecology .....	1904	1913	
Assistant professor of gynecology .....	1913	1915	
Associate professor of obstetrics and gynecology .....	1915	1931	
Professor of obstetrics and gynecology .....	1931	1936	
Dr. Franklin Randolph Wright			
Clinical assistant in surgery and dermatology .....	1896	1902	
Clinical instructor in dermatology and genito-urinary diseases .....	1902	1909	
Assistant professor of genito-urinary diseases .....	1909	1920	
Assistant professor in charge of the Division of Urology .....	1915	1920	
Associate professor and director of the Division of Urology .....	1920	1936	

In addition to the reading of the above statement and the names of those who left the service of the University in 1936, the University sent to each of them the following inscribed certificate:

In recognition of your long and distinguished service to the University of Minnesota and to the State, the Senate of the University, the President and the Board of Regents present this certificate and express their gratitude, esteem and affection. Your name is already on the roll of honor of those who as teachers and administrators have contributed to the development of a great University, have enriched the lives of countless students, and through them the life of the Commonwealth. You have served the University notably and well as . . . .

A similar certificate was sent to the staff members whose service terminated in 1935:

William Remsen Appleby			
Professor of mines and metallurgy .....	1891	1900	
Dean of the School of Mines and Metallurgy .....	1900	1935	
Dean emeritus of the School of Mines and Metallurgy .....	1935		
Peter Christianson			
Scholar in mining .....	1892	1894	
Instructor in metallurgy .....	1894	1897	
Director of laboratories .....	1897	1906	
Assistant professor of metallurgy .....	1906	1908	
Professor of metallurgy .....	1908	1935	
Professor emeritus, Department of Metallurgy .....	1935		

## CHANGES IN THE FACULTIES

### RESIGNATIONS, 1934-35

- Lieutenant Colonel Lloyd R. Fredendall, professor of military science and tactics, effective September 16, 1934.
- Morris B. Lambie, professor and chief, Municipal Reference Bureau, General Extension Division, effective June 16, 1935.
- Kenneth E. Olson, professor of journalism, effective June 16, 1935.
- Oscar A. Weiss, professor, School of Dentistry, effective June 16, 1935.
- Harry L. Parker, associate professor of neurology, Mayo Foundation, effective August 1, 1934.
- William H. Stead, associate professor, School of Business Administration, effective June 16, 1935.

- Donald C. Beaver, assistant professor, Mayo Foundation, effective March 1, 1935.  
 Captain Hammond D. Birks, assistant professor of military science and tactics, effective August 9, 1934.  
 First Lieutenant Vincent J. Conrad, assistant professor of military science and tactics, effective August 9, 1934.  
 Captain William A. Ellis, assistant professor of military science and tactics, effective August 9, 1934.  
 Major Charles H. Jones, assistant professor of military science and tactics, effective August 16, 1934.  
 Captain Emil Krause, assistant professor of military science and tactics, effective August 9, 1934.  
 Major Theron G. Methven, assistant professor of military science and tactics, effective at close of 1934-35.  
 Barbara Thompson, assistant professor, School of Nursing, effective February 1, 1935.  
 Alice H. Tolg, assistant professor, Department of Physical Education for Women, effective June 16, 1935.  
 Everard Upjohn, assistant professor of fine arts, effective June 16, 1935.

## RESIGNATIONS, 1935-36

- J. N. Douglas Bush, professor and chairman, Department of English, effective June 16, 1936.  
 Halbert L. Dunn, director of University of Minnesota Hospitals and professor of medical statistics, effective July 16, 1935.  
 Ralph H. Dwan, professor of law, effective January 16, 1936.  
 John I. Parcel, professor of civil engineering, effective at close of 1935-36.  
 Carlos V. Arjona, associate professor of Romance languages, effective December 22, 1935.  
 Charles R. Donham, associate professor of veterinary medicine, effective October 1, 1935.  
 Esther M. Greisheimer, associate professor of physiology, effective September 1, 1935.  
 Angus W. Morrison, associate professor of medicine, effective May 1, 1936.  
 Leroy Powers, associate professor, Division of Agronomy and Plant Genetics, effective July 1, 1935.  
 Mildred Adams, assistant professor, Mayo Foundation, effective June 1, 1936.  
 Henry B. Bull, assistant professor of agricultural biochemistry, effective at close of 1935-36.  
 Herbert A. Carroll, assistant professor, College of Education, effective at close of 1935-36.  
 Ralph Cassidy, assistant professor, School of Business Administration, effective June 16, 1936.  
 Lewis F. Garey, assistant professor of agricultural economics, effective July 1, 1936.  
 Kate Hevner, assistant professor of psychology, effective at time of reappointment for 1935-36.  
 Archie N. Jones, assistant professor, College of Education, effective at time of reappointment for 1935-36.  
 Robert B. Radl, assistant professor of preventive medicine and public health and physician in Students' Health Service, effective January 1, 1936.  
 James G. Umstatt, assistant professor, College of Education, effective at close of 1935-36.  
 Florence M. Warnock, assistant professor, Department of Physical Education for Women, effective June 16, 1936.  
 Robert M. Weidenhammer, assistant professor, School of Business Administration, effective at time of reappointment for 1935-36.

## APPOINTMENTS, 1934-35

## PROFESSORS

- James B. Fitch as professor and chief, Division of Dairy Husbandry, beginning February 1, 1935  
 B.S. 1910, Purdue University; M.S. 1935, Kansas State College.

Marbury B. Ogle as professor and head, Department of Latin, for 1934-35 and beginning with 1935-36 as head, Department of Classics (union of Departments of Latin and Greek)

B.A. 1902, Ph.D. 1907, Johns Hopkins University.

Major Adam E. Potts as professor of military science and tactics beginning with the year 1934-35

Horace E. Read as professor of law beginning with the year 1934-35

B.A. 1921, Acadia University; LL.B. 1924, Dalhousie University; LL.M. 1925, S.J.D. 1934, Harvard University.

#### ASSOCIATE PROFESSORS

Joseph Berkson as associate professor of medical statistics on the Mayo Foundation beginning January 1, 1935

B.S. 1920, College of the City of New York; M.A. 1922, Columbia University; M.D. 1927, D.Sc. (Statistics), 1928, Johns Hopkins University.

William G. Murray as associate professor of agricultural economics from April 1 to June 15, 1935

B.A. 1922, DePauw University; Ph.M. 1929, University of Wisconsin.

#### ASSISTANT PROFESSORS

First Lieutenant Charles B. Brown as assistant professor of military science and tactics beginning with the year 1934-35

B.S. 1927, United States Military Academy, West Point.

Mitchell V. Charnley as assistant professor of journalism for the year 1934-35

B.A. 1919, Williams College; M.A. 1921, University of Washington.

Laura A. Draper as assistant professor of public health nursing from November 16, 1934 to June 30, 1935

B.A. 1912, Wellesley College; B.S. 1922, Simmons College.

Arthur E. Engebretson as assistant county agent leader with rank of assistant professor in agricultural extension for the year 1934-35

B.S. 1916, M.S. 1933, University of Minnesota.

Edward O. Holien as assistant professor of architecture for the year 1934-35

B.S. 1923, University of Minnesota; M.S. 1926, Massachusetts Institute of Technology.

Elio D. Monachesi as assistant professor of sociology for the year 1934-35

B.A. 1927, M.A. 1928, University of Missouri; Ph.D. 1931, University of Minnesota.

First Lieutenant Layton A. Zimmer as assistant professor of military science and tactics beginning with the year 1934-35.

#### PROFESSORIAL LECTURERS

Read Bain as professorial lecturer in sociology for the spring quarter of 1934-35

B.A. 1916, Willamette University; M.A. 1921, University of Oregon; Ph.D. 1926, University of Michigan.

Joseph H. Colman as professorial lecturer in the Law School for the year 1934-35

B.A. 1918, LL.B. 1921, Yale University.

Aileen Fitzpatrick as visiting professorial lecturer in sociology from January 1 to 31, 1935

B.A. 1918, European School of Education.

Dale Yoder as professorial lecturer in the School of Business Administration for the year 1934-35 and as professor for the year 1935-36

B.A. 1923, James Millikin University; M.A. 1926, Ph.D. 1929, University of Iowa

#### APPOINTMENTS, 1935-36

##### PROFESSORS

Max E. Ernst as professor in the School of Dentistry for the year 1935-36

D.D.S. 1913, University of Minnesota; LL.B. 1913, St. Paul College of Law; F.A.C.D. 1932.

Lloyd M. Short as professor of political science beginning with the year 1935-36

B.A. 1919, Knox College; M.A. 1920, Ph.D. 1922, University of Illinois.

##### ASSOCIATE PROFESSORS

Thomas S. Barclay as associate professor of political science for the spring quarter of 1935-36

B.A. 1915, M.A. 1916, University of Missouri; Ph.D. 1922, Columbia University.

Forrest R. Immer as associate professor of agronomy and plant genetics for the year 1935-36

B.S. 1924, M.S. 1925, Ph.D. 1927, University of Minnesota.

- Clarence C. Ludwig as associate professor of political science and head of the Municipal Reference Bureau beginning with the year 1935-36  
B.A. 1916, Whitman College; M.A. 1917, Columbia University; C.P.A. 1927, Oregon Institute of Technology.
- Benjamin F. Smith as associate professor of psychiatry, Mayo Foundation, beginning with the year 1935-36  
B.A. 1917, University of Missouri; M.D. 1919, Tulane University.

## ASSISTANT PROFESSORS

- Doris King Arjona as assistant professor of Romance languages from December 22, 1935 to June 15, 1936  
B.A. 1911, University of Michigan; M.A. 1923, Ph.D. 1927, University of Chicago.
- Mary A. Foley as assistant professor of medicine (dietetics), Mayo Foundation, beginning with the year 1935-36.
- Howard Gilkinson as assistant professor of speech, for the year 1935-36  
B.A. 1923, Carleton College; M.A. 1929, University of Iowa.
- Edward G. Jennings as assistant professor, Law School, for the year 1935-36  
B.A. 1926, M.A. 1927, University of Nebraska; LL.B. 1931, LL.M. 1934, Harvard Law School.
- Marvel Mee as assistant professor of physical education for women for the year 1935-36  
B.S. 1930, University of Minnesota.
- Elio D. Monachesi as assistant professor of sociology for the year 1935-36  
B.A. 1927, M.A. 1928, University of Missouri; Ph.D. 1931, University of Minnesota.
- Ralph O. Nafziger as assistant professor of journalism for the year 1935-36  
B.S. 1920, B.A. 1921, M.A. 1930, University of Wisconsin.
- Carl L. Nordly as assistant professor of physical education and athletics for the year 1935-36  
B.A., 1925, Carleton College; M.A. 1933, Columbia University.
- David M. Robb as assistant professor of fine arts for the year 1935-36  
B.A. 1926, M.A., 1927, Oberlin College; M.A. 1929, Princeton University.
- Ivol Spafford as assistant professor of eutenics on General College General Education Board Fund for the year 1935-36  
B.S. 1918, M.A. 1926, Teachers College, Columbia University; Ph.D. 1935, Ohio State University.
- William B. Tucker as assistant professor of biological studies on General College General Education Board Fund for the year 1935-36  
B.A. 1929, Oberlin College; M.D. 1934, University of Chicago.
- Thomas J. B. Wenner as assistant professor of social studies on General College General Education Board Fund for the year 1935-36  
B.A. 1926, Oberlin College; M.A. 1929, New York University.
- John H. Williams as assistant professor of physics for the year 1935-36  
B.A. 1928, University of British Columbia; M.A. 1930, Ph.D. 1931, University of California.

## PROFESSORIAL LECTURER

- Benedict S. Deinard as professorial lecturer, Law School, from February 1 to June 15, 1936  
B.A. 1919, LL.B. 1921, University of Minnesota; S.J.D. 1922, Harvard University.

## PROMOTIONS EFFECTIVE 1934-35

- Assistant to the President to University Dean and Assistant to the President:*  
Malcolm M. Willey (beginning July 1, 1934)
- Professor and Acting Head to Professor and Head of Department of Medicine:*  
J. Charnley McKinley (Medical School)
- Associate Professor to Professor:*  
Walter C. Alvarez (Mayo Foundation) \*  
Charles Bird (College of Science, Literature, and the Arts)  
Frederic K. Butters (College of Science, Literature, and the Arts)  
George B. Eusterman (Mayo Foundation)  
Herbert Z. Giffin (Mayo Foundation)  
Willis L. Lemon (Mayo Foundation)  
John S. Lundy (Mayo Foundation)

Wesley E. Peik (College of Education)

Laurence M. Winters (College of Agriculture, Forestry, and Home Economics)

*Assistant Professor to Associate Professor:*

Gertrude M. Baker (Physical Education for Women)

Edward J. Baldes (Mayo Foundation)

Thomas F. Barnhart (College of Science, Literature, and the Arts)

Anne L. Fenlason (College of Science, Literature, and the Arts)

Raymond L. Grismer (College of Science, Literature, and the Arts)

Raymond E. Johnson (School of Dentistry)

Fred A. Krantz (College of Agriculture, Forestry, and Home Economics)

Willem J. Luyten (College of Science, Literature, and the Arts)

Joseph C. Michael (Medical School)

Howard D. Myers (College of Engineering and Architecture)

William T. Peyton (Medical School)

LeRoy Powers (College of Agriculture, Forestry, and Home Economics)

John G. Rockwell (College of Education)

Edgar B. Wesley (College of Education)

*Principal and Assistant Professor to Superintendent and Associate Professor:*

John O. Christianson (School of Agriculture)

*Assistant to Director and Instructor to Assistant Director and Assistant Professor:*

Fred L. Hovde (General College)

*Instructor and Assistant Director, Engineering Experiment Station to Assistant Professor and Assistant Director, Engineering Experiment Station:*

Axel B. Algren (College of Engineering and Architecture)

*Dietitian and Instructor to Dietitian and Assistant Professor:*

Gertrude Thomas (University of Minnesota Hospitals)

*Instructor to Assistant Professor:*

Edgar V. Allen (Mayo Foundation)

Edward S. Bade (Law School)

Mandred W. Comfort (Mayo Foundation)

Samuel N. Dicken (College of Science, Literature, and the Arts)

Della G. Drips (Mayo Foundation)

Everett K. Geer (Medical School)

Harold C. Habein (Mayo Foundation)

Fred H. Hayes (School of Dentistry)

Edwin J. Kepler (Mayo Foundation)

C. Frederick Koelsch (School of Chemistry)

Charles K. Maytum (Mayo Foundation)

Morse J. Shapiro (Medical School)

Cecil J. Watson (Medical School)

PROMOTIONS EFFECTIVE 1935-36

*Dean of Medical Sciences to Distinguished Professor:*

Richard E. Scammon (Graduate School)

*Director of Students' Health Service and Professor to Dean and Professor:*

Harold S. Diehl (Medical Sciences)

*Professor and Director, School of Chemistry to Dean and Professor*

Samuel C. Lind (Institute of Technology)

*Associate Professor to Professor:*

Louis A. Buie (Mayo Foundation)  
 George O. Burr (College of Science, Literature, and the Arts)  
 Wallace H. Cole (Medical School)  
 Alexander R. Colvin (Medical School)  
 Clifford Kirkpatrick (College of Science, Literature, and the Arts)  
 Harold Macy (College of Agriculture, Forestry, and Home Economics)  
 Thomas B. Magath (Mayo Foundation)  
 Clayton O. Rost (College of Agriculture, Forestry, and Home Economics)  
 Karl W. Stenstrom (Medical School)  
 Lorenz G. Straub (College of Engineering and Architecture)  
 Charles B. Wright (Medical School)  
 Arthur A. Zierold (Medical School)

*Assistant Professor to Associate Professor:*

Louie T. Austin (Mayo Foundation)  
 Jacob A. Bargen (Mayo Foundation)  
 Virgil S. Counseller (Mayo Foundation)  
 Claude F. Dixon (Mayo Foundation)  
 Alvin C. Eurich (College of Education)  
 Thorvald S. Hansen (College of Agriculture, Forestry, and Home Economics)  
 Philip S. Hench (Mayo Foundation)  
 Elmer W. Johnson (College of Engineering and Architecture)  
 Palmer O. Johnson (College of Education)  
 Reuben A. Johnson (Medical School)  
 Walter M. Lauer (School of Chemistry)  
 John S. Macnie (Medical School)  
 Hamilton Montgomery (Mayo Foundation)  
 Lawrence M. Randall (Mayo Foundation)  
 Newton D. Smith (Mayo Foundation)  
 Albert M. Snell (Mayo Foundation)  
 Miles A. Tinker (College of Science, Literature, and the Arts)

*Instructor to Assistant Professor:*

Francis S. Appel (General College)  
 Howard W. Barlow (College of Engineering and Architecture)  
 Louis A. Brunsting (Mayo Foundation)  
 Alburey Castell (College of Science, Literature, and the Arts)  
 Samuel T. Coulter (College of Agriculture, Forestry, and Home Economics)  
 Verne C. Fryklund (College of Education)  
 Howard K. Gray (Mayo Foundation)  
 Royal C. Gray (Medical School)  
 Arild E. Hansen (Medical School)  
 George Hauser (Physical Education for Men)  
 Frank J. Heck (Mayo Foundation)  
 Richard M. Hewitt (Mayo Foundation)  
 Henry S. Jerabek (School of Mines and Metallurgy)  
 Donald W. Johnson (College of Agriculture, Forestry, and Home Economics)  
 Arthur C. Kerkhof (Medical School)

Robert A. Kissack, Jr. (Visual Education)  
 Charles W. Mayo (Mayo Foundation)  
 Julia Miller (School of Nursing)  
 Louis E. Prickman (Mayo Foundation)  
 Robert B. Radl (Medical School)  
 Edward A. Regnier (Medical School)  
 Charles E. Skinner (Medical School)  
 Catherine Snell (Physical Education for Women)  
 Gershom J. Thompson (Mayo Foundation)  
 Ralph M. Tovell (Mayo Foundation)  
 Oswald S. Wyatt (Medical School)

*Principal and Instructor to Principal and Assistant Professor:*  
 Oliver R. Floyd (College of Education)

*Acting Superintendent of Nurses and Instructor to Superintendent of Nurses and Assistant Professor:*  
 Cecelia Hauge (University of Minnesota Hospitals)

*Chief Medical Adviser for Women to Assistant Director:*  
 Ruth E. Boynton (Students' Health Service)

*Assistant Director to Acting Director:*  
 Ray Amberg (University of Minnesota Hospitals)

#### LEAVES OF ABSENCE, 1934-35

- J. N. Douglas Bush, professor of English, sabbatical furlough for 1934-35, to accept a Guggenheim fellowship for study abroad.
- Alvin H. Hansen, professor, School of Business Administration, continuation of leave from September 16, 1934 to June 15, 1935, without salary, to accept position on the State Department Reciprocity Committee, Washington, D.C.
- Robert T. Jones, professor, School of Architecture, without salary for 1934-35, to serve as regional reconditioning supervisor for a group of states for the Home Owners' Loan Corporation under the PWA.
- Morris B. Lambie, professor, General Extension Division and College of Science, Literature, and the Arts, sabbatical furlough for fall quarter of 1934-35, to continue investigation into the subject of university training for public service.
- Paul E. Miller, professor and superintendent, West Central School and Station, without salary from July 16 to October 15, 1934, to accept position as state director of Drouth Relief Service of the AAA.
- J. Anna Norris, professor and director, Department of Physical Education for Women, sabbatical furlough for 1934-35, for rest, study, and travel abroad.
- Everett W. Olmsted, professor and head of the Department of Romance Languages, sabbatical furlough for 1934-35, for study in Europe.
- John I. Parcel, professor of civil engineering, without salary for 1934-35, to engage in professional practice.
- Frank W. Peck, professor and director of agricultural extension, continuation of leave without salary from July 1, 1934 to June 30, 1935, to continue work with the Farm Credit Administration in Washington, D.C.
- Josephine E. Tilden, professor of botany, without salary for fall quarter of 1934-35, for research work on algae of the Pacific.
- Roland S. Vaile, professor, School of Business Administration, without salary from September 16 to November 15, 1934, to accept appointment as consultant to Minnesota State Planning Board.
- Albert B. White, professor of history, sabbatical furlough for 1934-35 for rest and writing.
- Carlos V. Arjona, associate professor of Romance languages, without salary for 1934-35 for study at Harvard University.
- George O. Burr, associate professor of botany, sabbatical furlough for the fall quarter of 1934-35, to study problems of photosynthesis in leading European laboratories.

- Alice M. Child, associate professor of home economics, with salary, from December 1, 1934 to January 7, 1935, on account of illness.
- Edwin C. Johnson, associate professor of agricultural economics, continuation of leave without salary, from October 1, 1934 to June 30, 1935, to continue work as vice-president of Production Credit Corporation in St. Paul.
- John G. Rockwell, associate professor, College of Education, without salary, for 1934-35, to accept appointment as state commissioner of education for Minnesota.
- Dora V. Smith, associate professor, College of Education, sabbatical furlough for the spring quarter of 1934-35 to complete writing a book in the field of adolescent literature.
- William H. Stead, associate professor, School of Business Administration, continuation of leave without salary for 1934-35, to continue his work with the United States Department of Labor in Washington, D.C.
- Mark J. Thompson, associate professor and superintendent, Northeast Experiment Station, without salary from July 16 to November 15, 1934, to accept appointment as supervisor of the emergency pasturage project of the State Drouth Relief Administration of the SERA appointed by Governor Floyd B. Olson.
- Elizabeth Atkins, assistant professor of English, sabbatical furlough for 1934-35, for travel and study.
- Herbert A. Carroll, assistant professor, College of Education, without salary for 1934-35, on account of health.
- Spencer B. Cleland, farm management specialist with rank of assistant professor in agricultural extension, without salary from June 16-30, 1934 and from July 1, 1934 to June 30, 1935, to accept position as regional supervisor of thirteen north central states to correlate agricultural extension, agricultural adjustment, and rural rehabilitation for the United States Department of Agriculture.
- Edwin A. Hanson, dairy specialist with rank of assistant professor in agricultural extension, with salary from May 1-31, 1935, on account of illness.
- Edward L. Hill, assistant professor of physics, without salary for 1934-35, to accept a position at the Polytechnical Institute in Leningrad, U.S.S.R.
- Palmer O. Johnson, assistant professor, College of Education, sabbatical furlough for 1934-35, for study and travel abroad.
- Richard L. Kozelka, assistant professor, School of Business Administration, sabbatical furlough for 1934-35, to accept a Social Science Research Council fellowship for foreign study.
- Dorothy Kurtzman, assistant professor of nursing and superintendent of nursing projects, with salary from October 1-31, 1934, to study organization and teaching program in out-patient departments for nursing in Chicago, Cleveland, Cincinnati, and Detroit.
- Roger S. Mackintosh, exhibit specialist with rank of assistant professor in agricultural extension, with salary from January 16 to March 31, 1935, on account of illness.
- Ella J. Rose, assistant professor of home economics, College of Education, sabbatical furlough for 1934-35, for further study.
- William J. Routledge, assistant professor of rhetoric, with salary January 14-31, 1935, on account of illness.
- W. Bruce Silcox, marketing specialist with rank of assistant professor in agricultural extension, without salary from December 16, 1934 to June 30, 1935, to accept a position as credit specialist with Farm Credit Administration in Washington, D.C.
- Herbert Sorenson, assistant professor of education, General Extension Division, without salary from September 16, 1934 to January 31, 1935, to accept a position with the State Emergency Relief Administration, and a sabbatical furlough from February 1 to June 15, 1935, for adult education investigation work financed by a Carnegie grant.
- Barbara Thompson, assistant professor, School of Nursing, without salary from August 16 to November 15, 1934, to accept position as director of the Wisconsin Bureau of Nursing Education.
- Robert M. Weidenhammer, assistant professor, School of Business Administration, sabbatical furlough for 1934-35, for study and research work on American capital market to be conducted in this country and abroad.

## LEAVES OF ABSENCE, 1935-36

- Malcolm M. Willey, university dean and assistant to the president, leave without salary for 36 per cent of his time from October 1, 1935 to September 30, 1936, to serve as director of research for Committee Y of the American Association of University Professors to study the effect of the depression and recovery upon higher education.
- Roy G. Blakey, professor, School of Business Administration, without salary for 1935-36, to accept a position as chief of the Division of Economic Research of the Bureau of Foreign and Domestic Commerce.
- Leo J. Brueckner, professor, College of Education, without salary for spring quarter of 1935-36, to direct survey of elementary education for the Regents' Inquiry into the Cost and Character of Education for the State of New York.
- Harl R. Douglass, professor, College of Education, without salary from December 16, 1935 to March 15, 1936, to accept appointment on American Youth Commission.
- Fred Engelhardt, professor, College of Education, sabbatical furlough for fall quarter of 1935-36, for research work on economics, social, and educational problems dealing with the development of public education in a section of the state of Connecticut and to gather material of a historical nature dealing with public school administration with a view of developing "talking pictures" for instructional purposes.
- Oliver P. Field, professor of political science, without salary for 1935-36, to substitute for Professor Henry Yeomans at Harvard University.
- Ross A. Gortner, professor and chief, Division of Agricultural Biochemistry, without salary from October 1, 1935 to January 31, 1936, to accept the George Fisher Baker Lectureship at Cornell University.
- Herbert K. Hayes, professor and chief, Division of Agronomy and Plant Genetics, sabbatical furlough from April 1, 1936 to March 31, 1937, for travel and research work for the National Agricultural Research Bureau in China.
- J. Charnley McKinley, professor and head, Department of Medicine, with salary from June 1 to July 31, 1936, to visit university psychiatric hospitals in Boston, New York, Baltimore, and Ann Arbor.
- Louallen F. Miller, professor of physics, sabbatical furlough for 1935-36, for research work in solar radiation in Arizona.
- Cecil A. Moore, professor and chairman, Department of English, sabbatical furlough for 1935-36, for research work in British museums.
- Bruce D. Mudgett, professor, School of Business Administration, sabbatical furlough for 1935-36, to be spent in Europe studying price dispersion in relation to fluctuations in economic conditions.
- Frank W. Peck, professor and director of agricultural extension, continuation of leave without salary, from July 1 to December 31, 1935, to continue work with Farm Credit Administration in Washington, D.C.
- Henry Schmitz, professor and chief, Division of Forestry, with salary from July 9 to September 15, 1935, on account of ill health.
- Warren C. Waite, professor of agricultural economics, with salary from January 27 to February 29, 1936, for meeting of Nutrition Committee of Economic Section of the League of Nations, at Geneva, Switzerland.
- Frank K. Walter, professor and university librarian, with salary from May 27 to August 9, 1936, to study university library administration in Scandinavia, Finland, and England, and to visit library agents and other booksellers in these countries and in France.
- Jerry E. Wodsedalek, professor of zoology, sabbatical furlough for 1935-36, for research work at the University of Arizona, and at one or two institutions in California.
- Alice Biester, associate professor of home economics, with salary from April 21 to June 15, 1936, on account of illness.
- Clara M. Brown, associate professor of home economics, College of Education, sabbatical furlough for winter and spring quarters of 1935-36, for travel and study.
- Sherman W. Finger, associate professor, Department of Physical Education and Athletics, sabbatical furlough for 1935-36, to study and observe training and conditioning of track athletic teams and physical education in Europe.

- G. Tremaine McDowell, associate professor of English, sabbatical furlough for 1935-36, to accept a Guggenheim fellowship, to complete a study of the life of William Cullen Bryant.
- Julia O. Newton, state leader in home demonstration with rank of associate professor in agricultural extension, without salary from May 1 to July 31, 1936, for work with Farm Credit Administration.
- Harold C. Deutsch, assistant professor of history, sabbatical furlough for 1935-36, to accept a Social Science Research fellowship, for study and research in Germany.
- Lewis F. Garey, assistant professor of agricultural economics, without salary from October 1, 1935 to June 30, 1936, for research at the University of Nebraska.
- Joseph T. King, assistant professor of physiology, with salary from November 9 to December 31, 1935, and from April 16 to June 15, 1936, on account of illness.
- Dorothy Kurtzman, assistant professor, School of Nursing and superintendent of nursing projects, without salary from January 1 to March 31, 1936, for rest and recuperation.
- Benjamin E. Lippincott, assistant professor of political science, sabbatical furlough for winter and spring quarters of 1935-36 and the fall quarter of 1936-37, for travel in England and France, to pursue studies in political theory.
- Edna Fowler Mathieson, assistant professor of home economics, without salary for the spring quarter of 1935-36, for rest.
- Lucile Petry, assistant professor, School of Nursing, sabbatical furlough from October 16, 1935 to September 15, 1936, to work with the Central Curriculum Committee of the National League of Nursing Education and also work for Doctor's degree at Teachers College, Columbia University.
- Julius Romness, assistant professor of agricultural engineering, with salary from June 20 to December 31, 1935, on account of ill health.
- W. Bruce Silcox, marketing specialist with rank of assistant professor in agricultural extension, continuation of leave without salary from July 1 to November 30, 1935, to continue as credit specialist with Farm Credit Administration in Washington, D.C.
- Gertrude Thomas, dietitian and assistant professor, University of Minnesota Hospitals, with salary from August 1 to 31, 1936, to visit hospitals in New York and abroad.
- Marvin J. Van Wagenen, assistant professor, College of Education, with salary from January 13 to March 15, 1936, on account of injuries in an automobile accident.
- Wendell White, assistant professor of psychology in General Extension Division, sabbatical furlough from February 16 to June 30, 1936, for rest and to continue his series of books entitled *The Psychology of Dealing with People*.

#### DEATHS

During the biennium the University suffered great loss in the deaths of the following staff members:

##### GISLE CHRISTIAN JOHNSON BOTHNE

1860-1934

Gisle Christian Johnson Bothne was born at Fredrikshald, Norway, September 7, 1860. After completing the customary elementary and preparatory schools, he matriculated for studies of collegiate grade. His father, Thronnd Bothne, in 1875 accepted a call to become professor of Norwegian at Luther College, Decorah, Iowa.

Professor Bothne matriculated at Luther College, and was graduated at the end of the second year with the B.A. degree. In 1883, he received an M.A. degree from Luther College. In the meantime, he had studied at Northwestern University, 1878-79, at Johns Hopkins University, 1879-80, and again in 1883-84. He studied in Greece, Germany, and Norway in 1904-1905.

Professor Bothne joined the Luther faculty in 1881 at twenty-one years of age. He taught French, German, Norwegian, history, mathematics, and geography, besides the classical languages. In 1882, he became instructor in Greek and Nor-

wegian. The preparatory department of Luther College became a distinct division in 1891, and he served as principal until 1896. Professor Bothne taught at Luther College for more than a quarter of a century.

Professor Bothne came to the University of Minnesota in 1907, with a well-established reputation as a student of Ibsen and the history of Norwegian literature. Throughout his career at the University, he was indefatigable in his championship of Norwegian language, literature, and history. He retired in 1929 as he approached the seventy-year mark, but was given an emeritus professorship which he held until his death on December 8, 1934.

By reason of Professor Bothne's scholarly work as a professor, and his leadership and interest in Norwegian-American affairs, King Haakon in 1911 honored him by bestowing upon him the Order of Knight of St. Olav, and in 1926 he was given the higher rank of commander in the same order.

Besides numerous public lectures and addresses unpublished, Professor Bothne was the author of *Det Norske Luther College, 1861-1897*; co-editor of Rolfsen's series, "Boken om Norge"; and collaborator of Wist's *Norsk-Amerikanernes Festskrift*.

Besides membership in several linguistic and scientific societies, he was one of the founders of Delta Sigma Pi, Norwegian literary society of the University. He was the chairman of the Norse-American Centennial celebrated here in 1925. Further, he was president of "Det Norske Selskap," president and member for many years of the Norwegian National League of Minneapolis, and honorary member of the Norwegian-Danish Press Association.

Professor Bothne was chairman of the committee that secured the introduction of the study of the Scandinavian languages into the high schools of Minneapolis and other places in Minnesota. He did much to build up the Scandinavian part of the University library so that it now ranks among the best of its kind outside of Scandinavia.

Professor Bothne was a warm friend of students, and his home was always open to them. His students and the University were alike greatly influenced by his sincerity and aggressive interest in his chosen field of work.

#### GEORGE ELGIE BROWN

1885-1935

George Elgie Brown was born in Grand Rapids, Michigan, on July 16, 1885. His death occurred on November 28, 1935, at Rochester, Minnesota.

Dr. Brown was a graduate of the University of Michigan Department of Medicine and Surgery, and received his M.D. degree in 1909. Following his graduation he established practice and, except for war-time interruption, carried on his profession at Miles City, Montana. In 1918 he went to France and served for a year with the Rockefeller Foundation.

Dr. Brown began his association with the University of Minnesota with the academic year 1922-23 when he joined the staff, on the Mayo Foundation, as an instructor in medicine. He had previously served for two years, 1921 and 1922, on the staff of the Mayo Clinic. In 1923-24 Dr. Brown was given the rank of assistant professor by the University, and in 1927-28 he was named an associate professor.

A man of wide interests, Dr. Brown made for himself an outstanding reputation because of his scholarly work. His list of scientific publications was long and distinguished. He was a member of the Central Society of Clinical Research and the American Society for Clinical Investigation. He was a fellow of the American College of Physicians, and at one time served as a regent. As consulting physician and head of a section on medicine at the Mayo Clinic, he became widely known, and his death brought widespread regret and a keen sense of personal loss.

#### EDWARD STARR JUDD

1878-1935

Edward Starr Judd, professor of surgery on the Mayo Foundation, died on November 30, 1935. His untimely death occurred in Chicago, while he was en route to give a professional address in Philadelphia.

Dr. Judd was a native son of Minnesota. He was born in Rochester on July 11, 1878. His professional education began at the University of Minnesota, and in 1902 he graduated from the University of Minnesota School of Medicine. He then returned to Rochester as an interne in St. Mary's Hospital. The following year, 1903, Dr. Judd was named as first assistant to Dr. Charles H. Mayo, and in 1904 he assumed the headship of a section in the division of surgery at the Mayo Clinic. During the war period Dr. Judd served as director of a training school for officers and enlisted men of the medical corps, and his interest in the training of medical reserve officers continued thereafter.

Dr. Judd joined the staff of the University of Minnesota as an associate professor of surgery on the Mayo Foundation beginning with the academic year of 1915-16. He was made a full professor in 1920-21.

His professional career was summarized as follows in a tribute published in the *Journal of the American Medical Society*, of which organization he was president in 1931-32: "He contributed much to the advance of surgery, having long been recognized as a foremost leader and teacher, especially in surgery of the abdomen. Attesting his great work and ability are his numerous scientific articles in the periodical medical literature and textbooks, numbering more than 200. Dr. Judd was a favorite lecturer and traveled thousands of miles during his career to address medical groups and societies. He was from the beginning of his career an indefatigable worker in organized medicine in county, state, and national medical societies. He served as president of the Minnesota State Medical Association; was secretary of the section on surgery, 1913-1916, and chairman, 1917-1918, and in 1918 was elected second vice president of the American Medical Association. He was also a member of the Council on Scientific Assembly of the American Medical Association from the time it was created in 1915 until the conclusion of the annual meeting in Washington, D.C., in 1927. While President-elect he was chosen to give the first address of the Mayo Lectureship in Surgery at Northwestern University Medical School in Chicago in April 1931, a lectureship that was endowed by Dr. Charles H. Mayo for the advancement of learning in surgery. Dr. Judd was a member of the Minnesota Academy of Medicine, the Minnesota Pathological Society, the Western, Southern and Interurban Surgical Association, the Southern Minnesota Medical Association, the Association of Resident and Ex-Resident Physicians of the Mayo Clinic, Sigma Xi, and an honorary member of several scientific societies of foreign countries. Surgeons everywhere have spoken of the surgical mastery of E. Starr Judd, calling him a surgeon's surgeon and the greatest of great. Men came from the four corners of the world to witness him at his routine work. He was modest, sincere, and earnest—a man with beauty of character and greatness of spirit. His death fell on those who knew him like an overwhelming blow."

#### EGERTON WALES KIBBEY

1886-1935

Egerton W. Kibbey, lecturer in the College of Engineering and Architecture, died April 4, 1935. Mr. Kibbey was born at Chesterville, Maine, September 19, 1886. His early education was pursued at various schools in this country, Germany, and England. He graduated from St. Luke's School at Wayne, Pennsylvania, and later studied engineering at Harvard University.

In 1907 Mr. Kibbey came to Minnesota and began a long professional practice in the engineering field. From 1912 to 1916 he was city engineer of International Falls, Minnesota, and county engineer of Koochiching County.

Mr. Kibbey entered the service of the University of Minnesota in 1919 as instructor in drawing and descriptive geometry, resigning in 1923 to engage in the practice of engineering. He studied law at the Minnesota College of Law and was admitted to the bar in 1924. He organized the Kibbey Engineering Company of Minneapolis and engaged in a wide field of professional work covering several states.

His professional experience in both engineering and law gave him exceptional preparation in the field of engineering contracts and specifications and in 1931 he returned to the University to give a special course in this subject for students in the College of Engineering and Architecture. This was given each year, including the winter quarter of 1934-35 just prior to his death.

Mr. Kibbey was a member of various societies and clubs, both professional and social. He was a gentleman of fine character, high ideals, and delightful personality.

## ARTHUR TEALL MANN

1866-1935

Dr. Arthur Teall Mann was born in New York in 1866. He later, with his parents, came to Minneapolis, where he entered the University of Minnesota and was graduated in 1888 with a B.S. degree. He later entered Harvard Medical School, from which he graduated in 1896 with the degree M.D. *cum laude*. He served as an interne at Channing Hospital, Brookline, Massachusetts, from 1895 to 1896. From 1896 to 1898 he was house surgeon at Boston City Hospital and continued his medical training as resident of Massachusetts State Hospital from 1898 to 1899. He took postgraduate work in Boston in 1902 and abroad in 1904. He again visited medical centers of Europe in 1914. He returned to Minneapolis to practice his profession and served as assistant in surgery at the University of Minnesota Medical School from 1899 to 1902. He was instructor from 1902 to 1908; clinical professor to 1913, and from that date associate professor of surgery until the time of his death on April 15, 1935.

Dr. Mann took an active part in public health matters. He was chief of surgical service at the Minneapolis General Hospital from 1913 to 1922, when he relinquished active service to go on the consulting staff. He also served on the surgical staffs of the Northwestern Hospital and Abbott Hospital for many years. He was surgical consultant in the United States Public Health Service from 1919 to 1923, where he did an enormous amount of surgical work for returned soldiers. In 1918 and 1919 he served as a major in the Medical Corps of the United States Army and was chief surgeon at Camp Dodge, Iowa.

Dr. Mann was a member of the Hennepin County Medical Society, the State Medical Society, a fellow of the American Medical Association, fellow of the Western Surgical Society, fellow of the American College of Surgeons, a member of the Minneapolis Pathological Society, of the Minneapolis Surgical Society, and of the Minneapolis Academy of Medicine. His services as secretary-treasurer for sixteen years and later president of the Western Surgical Society are remembered by a widely distributed group of surgeons. He served as a governor of the American College of Surgeons.

Dr. Mann was a distinguished member of his profession, highly skilled in surgery and wise in his counsels. Because of his high ideals he was greatly esteemed by his students and by his associates in the medical profession.

**STAFF HONORS**

**Educational, Scientific, and Research Awards, page 119**

**Public Service, page 124**

## EDUCATIONAL, SCIENTIFIC, AND RESEARCH AWARDS

One measure of the standing of a university is found in the demands made upon its staff members for services other than those directly related to the classroom or the laboratory. Faced by problems of a perplexing nature, various governmental and nongovernmental agencies seek the expert advice of the scholars at the University. Similarly, associations and organizations are liberal in recognizing the achievement of the staff by bestowing honors upon them. The first of the two enumerations that follow describes briefly some of these honors; the second gives indication of the extent of the public service rendered by members of the staff.

**Administration.** Lotus D. Coffman received the honorary degree LL.D. from Northwestern University and from the University of South Dakota.

Malcolm M. Willey was reappointed as a member of the Social Science Research Council Committee on Social Science Personnel in charge of the fellowship program of the council, 1934-35, 1935-36.

**Museum of Natural History.** Thomas S. Roberts was elected president of the Minnesota Academy of Medicine for 1936.

Walter J. Breckenridge was elected a member of the American Ornithologists Union in 1936.

**Graduate School.** Guy Stanton Ford was elected first vice-president of the American Historical Association. He is a member of the Social Science Research Council for the American Historical Association and vice-chairman and member of the Problems and Policy Committee, a member of the Advisory and Selection Committee of the Guggenheim Memorial Foundation, a member of the American Committee on Intellectual Co-operation of the League of Nations, and a member of the nominating committee of the Teachers' Insurance and Annuity Association.

**University Art Gallery.** Ruth E. Lawrence was elected to the Board of Directors of the St. Paul Art School.

**Student Affairs.** Edward E. Nicholson is president of the Hennepin County unit of the Minnesota Law and Order League, and president of the Hennepin County Grand Jurors Association.

**School of Dentistry.** William F. Lasby was elected president of the American Association of Dental Schools in 1934 and vice-president of the American College of Dentists in 1934-35.

Wallace D. Armstrong is associate editor of the *International Journal of Dental Research*, serving for the years 1935-36 and 1936-37.

Peter J. Brekhuis and George M. Damon were appointed fellows of the American College of Dentists.

Max E. Ernst was elected first vice-president of the American Dental Association in 1934.

Raymond E. Johnson served as secretary of the Periodontia Section of the American Dental Association in 1935, and chairman of the Periodontia Section of the American Dental Association in 1936.

Everett E. MacGibbon was president of the Twin City Academy of Stomatology in 1935.

Charles E. Rudolph was named regent of the American College of Dentists in March, 1936, to serve for five years.

Lewis W. Thom was elected president of the Minneapolis District Dental Society in 1935-36.

William D. Vehe served as a member of the Program Committee for the International Dental Congress held in Vienna in August, 1936.

F. Denton White was elected president of the Minnesota State Dental Association in 1936.

Carl O. Flagstad acted as chairman of the Committee on Certification of Specialists of the American College of Dentists for the years 1934-35 and 1935-36.

**Department of Physical Education and Athletics.** Bernard W. Bierman was elected president of the National Football Coaches Association.

**Institute of Child Welfare.** John E. Anderson was elected vice-president of Section I, Psychology, in the American Association for the Advancement of Science. He is chairman of the Editorial Board, *Monographs of the Society for Research in Child Development*.

**School of Business Administration.** Alvin H. Hansen was awarded the honorary degree LL.D by Yankton College in June, 1936. He was associate editor of *Econometrica* from 1933 to 1936.

Roy G. Blakey served as one of the editors of the *American Economic Review*, 1934-36.

Richard L. Kozelka was awarded a Social Science Research Council Fellowship for foreign study in 1934-35.

Roland S. Vaile was elected vice-president of the American Statistical Association in 1935-36.

Dale Yoder was president of the Mid-West Economic Association in 1936.

Bruce D. Mudgett was awarded a Social Science Research Council grant for study abroad during 1935-36.

**Law School.** William L. Prosser was elected province president of the Phi Delta Phi fraternity and served as editor-in-chief of the *Minnesota Law Review*.

**Department of Agriculture.** William P. Kirkwood was elected president of the American Association of Agricultural College Editors for 1934-35.

Oscar B. Jesness was editor of the *Journal of Farm Economics*, 1933-35.

Warren C. Waite was associate editor of the *Journal of Farm Economics* for the period 1933-35.

Edwin C. Johnson was president of the Minnesota Statistical Association during 1935-36.

Herbert K. Hayes served as president of the American Society of Agronomy in 1934-35. He was elected an honorary member of the Saskatchewan Field Husbandry Association in recognition of his services in the improvement of field husbandry in the province of Saskatchewan.

Albert C. Arny was elected a fellow in the American Society of Agronomy, 1935.

Harold K. Wilson is editor of *Proceedings of the Minnesota Academy of Science*.

Charles W. Doxtator was elected to the Genetics Society of America.

Ralph F. Crim is president of the Seed Council of North America and editor of the *Minnesota Seed Grower*, published by the Minnesota Crop Improvement Association.

Laurence M. Winters is national secretary of Gamma Sigma Delta.

Alfred L. Harvey was elected first vice-president of the National Association of Stallion Registration Boards.

Ross A. Gortner was elected a member of the National Executive Committee of Sigma Xi. He was selected for the George Fisher Baker Non-Resident Lectureship at Cornell University for the fall quarter of 1935-36, was councillor-at-large for the American Chemical Society, and was elected to membership in the National Academy of Science. He is associate editor of the *Journal of the American Chemical Society*.

Clyde H. Bailey served as vice-chairman and member of the Executive Committee, Division of Agricultural and Food Chemistry of the American Chemical Society and as vice-president and chairman of the Executive Committee of the American Association of Cereal Chemistry.

William M. Sandstrom is national vice-president of Phi Lambda Upsilon.

Willis B. Combs was elected president of the National Creamery Butter-makers' Association.

Harold Macy is department editor of *Dairy Produce* published in Chicago.

Torfine L. Aamodt was elected president of the Minnesota Horticultural Society.

Alexander A. Granovsky was named assistant director of the Itasca Biological Field Station and fellow of the Entomological Society of America.

Ralph T. King was elected president of the Society of Wild Life Specialists.

Clarence E. Mickel was appointed a fellow in the Entomological Society of America.

William A. Riley is a member of the Executive Committee of the Entomological Society of America and of the Advisory Committee of the American Asso-

ciation of Economic Entomologists. He was appointed delegate of the United States Government to the International Congress of Zoology at Lisbon and of Entomology at Madrid in the summer of 1935, and was official representative of the University of Minnesota and of the Entomological Society of America at the same. He served as chairman of the Section of Parasitology and Economic Zoology at the International Congress of Zoology. He is a member and vice-president of the American Board of Trustees of Lignan University in Canton, China. He is a member of the Committee on Fellowships in the Biological Sciences, Division of Biology and Agriculture, National Research Council and is editor of medical entomology for the *Journal of Parasitology*.

Arthur G. Ruggles was elected fellow of the Entomological Society of America.

Henry Schmitz was appointed chairman of the Division of Education, Society of American Foresters, and associate member of a Committee on Schools of Forestry of the Society of American Foresters. He is on the editorial staff of the *Journal of Forestry*.

Elvin C. Stakman was vice-president of the Phytopathological Section of the International Botanical Congress at Amsterdam. He read an invitation paper at the plenary session of the International Botanical Congress, an invitation paper (with Dr. Helen Hart) for the International Congress of Comparative Pathology at Athens, Greece, and an invitation paper at the joint session of the American Association for Advancement of Science meetings in St. Louis. He delivered the Sigma Xi lecture at Cornell University and at Virginia Polytechnic Institute. He was elected a member of the Schweizerische Botanische Gesellschaft and is the American editor of *Phytopathologische Zeitschrift*.

Jonas J. Christensen is associate editor of *Phytopathology*.

Edward M. Freeman was elected president of the Minnesota Academy of Science for the year 1935-36. He is a member of the Regional Executive Committee of the Boy Scouts of America and a member of the National Council of the Boy Scouts of America.

Rodney B. Harvey was elected president of the American Society of Plant Physiologists, 1936-37.

Arthur C. Smith is president of the Minnesota Poultry Improvement Board and is poultry editor of *The Farmer and Farm, Stock, and Home*, service editor of *Leghorn World*, and service editor of *Plymouth Rock Monthly*.

Clayton O. Rost was elected chairman of the Minnesota Section of the American Chemical Society for 1936-37.

Clifford P. Fitch was elected first vice-president of the Twelfth International Veterinary Congress. He is contributing editor of the *Cornell Veterinarian*.

Theodore A. Erickson was elected to life membership in the Minnesota State Agricultural Society in recognition of his work with 4-H Club groups.

Andrew Boss was appointed head of the Experiment Station Section of the Association of Land-Grant Colleges and Universities.

Robert E. Hodgson has for the past two years been president of the Waseca County Debt Adjustment Committee. He has served as secretary-treasurer of the Minnesota Milking Shorthorn Breeders' Association.

Austin A. Dowell is president of the Red River Valley Livestock Breeders Association, of the Red River Valley Dairymen's Association, of the Red River Valley Winter Shows, and director of the Minnesota Red River Valley Development Association.

Thomas M. McCall was elected vice-president of the Minnesota Red River Valley Development Association.

Raymond S. Dunham served as secretary of the Red River Valley Crops and Soils Association.

Orville M. Kiser served as secretary of the Red River Valley Livestock Breeders Association.

**College of Science, Literature, and the Arts.** John B. Johnston was elected president of the Association of Minnesota Colleges in 1934-35 and 1935-36, and served as president of the Minnesota Conference on Secondary School and College Relationships, 1934-36.

Albert E. Jenks is associate editor of the *Journal of Physical Anthropology*. William S. Cooper was elected president of the Ecological Society of America for 1936. He is a member of the Editorial Board of the *American Journal of Botany* and the *Botanical Review*.

George O. Burr received the honorary degree of LL.D. from Hendrix College.

Edward F. D'Arms received an appointment to the College Entrance Examination Board.

Tremaine McDowell was awarded a Guggenheim Fellowship in 1935-36 for work in American literature.

Martin B. Ruud was awarded the honorary degree D.C.L. by the College of St. Thomas.

Ralph Hall Brown served as a member of the Council of the Association of American Geographers and was awarded a grant-in-aid from the Social Science Research Council.

Samuel Newton Dicken was elected a member of the Association of American Geographers.

Ralph D. Casey was re-elected editor of *Journalism Quarterly*.

Mitchell V. Charnley is vice-president of Sigma Delta Chi, national journalism professional fraternity, and associate editor of *Journalism Quarterly*.

Dunham Jackson was elected a member of the National Academy of Sciences in 1935. He was awarded the Chauvenet Prize of the Mathematical Association of America in 1935.

Alburey Castell was elected secretary of the Western Division of the American Philosophical Association for 1936-37.

John T. Tate served as vice-president of Section B of the American Association for the Advancement of Science in 1935-36. He was appointed to the National Research Fellowship Board of the National Research Council in 1936, to the Advisory Council on Applied Physics of the American Institute of Physics in 1936, and was elected to the chairmanship of the Board of Governors of the American Institute of Physics in 1936. He is editor of *Physical Review*, *Review of Modern Physics*, and *Physics*.

Lennox A. Mills was the recipient of grants from the Guggenheim Foundation, the Rhodes Trust (England), and from the Social Science Research Council for Research in Colonial Administration in the Far East, 1936-37.

Oliver P. Field was awarded a grant from the Social Science Research Council for study of civil service laws, 1936.

Lloyd M. Short was elected a member of the Council of the American Political Science Association.

Donald G. Paterson was appointed to the Editorial Board of the newly established *Journal of Psychology*.

Colbert Searles was elected president of the Modern Language Association of America.

F. Stuart Chapin was elected president of the American Sociological Society. He is contributing editor of *Rural Sociology* and a member of the Editorial Board of the *Journal of Child Development*.

Clifford Kirkpatrick was awarded a Guggenheim Fellowship for 1936-37.

Anne Fenlason is advisory editor of *Social Work Techniques* published by the University of Southern California.

A. Dale Riley is associate editor of the *Players Magazine*.

Franklin H. Knower is a member of the Editorial Board of *Speech Monographs* of the National Association of Teachers of Speech.

Harold C. Deutsch was awarded a fellowship by the Social Science Research Council for study of local and provincial government in Germany.

Theodore C. Blegen received the honorary degree L.H.D. from St. Olaf College. He is a member of the Board of Editors of the *Mississippi Valley Historical Review* and was re-elected managing editor for the Norwegian-American Historical Association.

Ernest S. Osgood was awarded a Guggenheim Fellowship in 1936.

**Institute of Technology.** Hervey H. Barber is editor for the Minnesota Section of the American Chemical Society of the *Chemical Bulletin*.

Charles Rosenblum received the advanced fellowship award of the University of Louvain, Belgium.

Izaak M. Kolthoff represented the University of Minnesota at the Tercentenary Celebration of the University of Utrecht in June, 1936. He delivered a series of lectures in analytical chemistry at Charles University in Prague, June 1936. He is a member of the Editorial Board, Analytical Edition, of *Industrial and Engineering Chemistry*.

Lee I. Smith is a member of the Board of Editors of the *Journal of Organic Chemistry*.

Frank H. MacDougall is associate editor of the *Journal of Physical Chemistry*. Lorenz G. Straub was elected vice-president of the Northwestern Section of the American Society of Civil Engineers and is editor-in-chief of *Hydraulic Laboratory Manual* published by the American Society of Civil Engineers.

William H. Kirchner served as president of the Minnesota Section of the Society for Promotion of Engineering Education.

Robert T. Jones is president of the Minnesota Chapter of the American Institute of Architects.

Roy Childs Jones was elected president of the American Association of Collegiate Schools of Architecture, 1934-36.

Frederick M. Mann was awarded a fellowship of the American Institute of Architects.

Ora M. Leland was elected president of the Northwestern Section of the American Society of Civil Engineers.

John D. Akerman is a member of the Editorial Board of the *Journal of Air Law* of the Air Law Institute.

John R. DuPriest served as a member of the Council of the American Association for the Advancement of Science and was A.S.M.E. representative on Section M of the American Association for the Advancement of Science.

John V. Martenis was elected national president of the Pi Tau Sigma, national honorary mechanical engineering fraternity.

Frank B. Rowley is contributing editor for heating, piping, and air conditioning publications.

**Medical School.** Harold S. Diehl was awarded the honorary degree D.Sc. by Gettysburg College (Pennsylvania). He is a member of the Editorial Board of *Journal-Lancet*.

Richard E. Scammon delivered the Delamar Lecture at Johns Hopkins University in March, 1935.

Jennings C. Litzenberg delivered the Potter lectures at the University of Kansas in March, 1936. He was chosen to represent the American Gynecological Society on the American Board of Obstetrics and Gynecology for four years.

Edward A. Boyden has been managing editor of the *Anatomical Record* since 1928.

Irvine McQuarrie is associate editor of the *Journal of Pediatrics*.

Chester A. Stewart was elected a member of the Committee on Diagnostic Standards of the National Tuberculosis Association.

Arild E. Hansen was awarded the Alexander Brown Coxe Fellowship at Yale University in 1934-35.

Albert V. Stoesser was elected president of the Northwestern Pediatrics Society in 1936.

Robert Wilder is vice-president of the Northwestern Pediatrics Society.

Owen H. Wangenstein was awarded the Samuel D. Gross Prize in 1935 by the Philadelphia Academy of Surgery. He was placed on the honor roll of twenty-five medical scientists who contributed most to their profession during the year 1934. This list was voted by medical deans and editors of professional magazines and published in *Modern Medicine*.

Carl O. Rice was awarded a fellowship by the American College of Surgeons in 1934.

Katharine J. Densford has served as president of the Minnesota League of Nursing Education since 1932 and is a member of the Editorial Advisory Board of the *Hospital Management* magazine.

Lucile Petry was awarded a fellowship at Teachers College, Columbia University, in 1935-36 for study of the nursing curriculum.

Ray M. Amberg was elected to membership in the American College of Hospital Administrators in 1935.

Elexious T. Bell was elected president of the American Association of Pathologists and Bacteriologists in 1933-34 and president of the American Association for Cancer Research in 1935-36.

Ruth E. Boynton and Ralph V. Ellis are members of the Editorial Board of *Journal-Lancet*.

J. Charnley McKinley was elected president of the Minnesota Pathological Society.

Leo G. Rigler received the third award for scientific exhibit at the 1934 meeting of Radiological Society of North America.

Frank E. Burch was elected president of the American Academy of Ophthalmology and Otolaryngology in 1936.

William Boothby and Edward C. Kendall of the Mayo Foundation were placed on the honor roll of twenty-five medical scientists who contributed most to their profession during the year 1934. This list was voted by medical deans and editors of professional magazines and was published in *Modern Medicine*.

**College of Education.** Dora V. Smith was elected president of the National Council of Teachers of English for 1936-37.

**College of Pharmacy.** Ragnar Almin was elected president of the Northwest Branch of the American Pharmaceutical Association.

Charles V. Netz served as a member of the Scholarship Committee of the National Pharmaceutical Honor Society.

Charles H. Rogers was named the Minnesota member of the Committee on Food and Drug Legislation of the American Association of Colleges of Pharmacy.

Frederick J. Wulling was awarded the life chairmanship of the Minnesota State Pharmaceutical Association, Section on Scientific and Practical Pharmacy. He was given the honor of emeritus status in the American Chemical Society in 1935.

**Department of Physical Education for Women.** May S. Kissock was elected director of the Mary Hemenway Alumnae Association of Wellesley College.

#### PUBLIC SERVICE

**Administration.** Lotus D. Coffman served as chairman of the American Council on Education (1935) and is a member of the American Youth Commission (appointed by the American Council on Education), of the Educational Policies Commission of the National Education Association, of the Board of Trustees, Carnegie Foundation for the Advancement of Teaching (of which he serves as secretary of the board), of the Board of Trustees, Carnegie Corporation of New York, of the Advisory Council, National Congress of Parents and Teachers, and of the Advisory Board, National Institution of Public Affairs.

Malcolm M. Willey was selected by the American Association of University Professors to direct its study on the effect of the depression and recovery on higher education, 1935-36, and was named a member of the committee of the Social Science Research Council to supervise a special study on social aspects of the depression, 1936-37. He was appointed a member of the Council of the *Public Opinion Quarterly*, Princeton University.

**University Art Gallery.** Ruth E. Lawrence was a member of the jury to judge the University of Wisconsin Annual Art Show in 1936.

**Student Affairs.** Edward E. Nicholson served on two of the mayor's committees for the study of the regulation of the liquor problem in Minneapolis.

Otis C. McCreery was a member of the Mayor's Hallowe'en Committee under Mayor A. G. Bainbridge and Mayor T. E. Latimer, and is on the Board of Directors of the Minneapolis Young Men's Christian Association.

**Department of Physical Education and Athletics.** Frank G. McCormick was chairman of the National Collegiate Athletic Association Finance Committee. He was also a member of the American Olympic Committee.

Louis F. Keller was secretary of the Hockey Rules Committee (N.C.A.A.), a member of the Ice Hockey Games Committee on Olympics, and secretary of the Athletic Section of the Central District of the American Physical Education Association.

Neils Thorpe served as a member of the National Collegiate Athletic Association Swimming Rules Committee.

**Department of Pharmacology.** Arthur D. Hirschfelder served on the General Committee of Revision of the United States Pharmacopoeia; also as member of the Subcommittees on Scope, Therapeutics and Pharmacodynamics, and Biological Assays of the United States Pharmacopoeia.

**Institute of Child Welfare.** John E. Anderson is a member of the Council of the American Psychological Association, of the Committee on Child Development of the National Research Council, and was elected secretary of the Committee on Long Term Growth Studies of the Society for Research in Child Development.

Florence L. Goodenough served as a member of the Council of Directors, American Psychological Association.

Josephine C. Foster was elected secretary-treasurer of the National Association for Nursery Education.

Esther McGinnis was named a member of the Governing Board of the National Council of Parent Education.

**School of Business Administration.** Russell A. Stevenson is a member of the Executive Committee of the American Accounting Association, chairman of the Committee on the Study of Business Education at the Collegiate Level (American Association of Collegiate Schools of Business), and chairman of the Committee of Deans of State University Schools of Business organized for the purpose of co-ordinating research in schools of business and that conducted by the Federal Government. He represented the University of Minnesota on the Committee on Economic Research of the National Bureau of Economic Research.

Roy A. Blakey was named chief of the Division of Economic Research, Bureau of Foreign and Domestic Commerce, United States Department of Commerce, 1935-36. He served as economic analyst in the United States Treasury Department and prepared a confidential report for the United States Treasury in the summer of 1934. He was a member of the Minnesota State Planning Commission and a member of committees appointed by the governor on taxation and liquor control, 1934-36.

Ralph Cassady served as editorial secretary for the Minnesota State Planning Board from June to September, 1936.

Frederic B. Garver was a member of the Executive Committee of the Price Conference of the National Bureau of Economic Research.

Alvin H. Hansen was appointed chief economic analyst, United States Department of State, Washington, 1934-35. He was a member of the Committee on Peaceful Change of the Council on Foreign Relations, American Section of the International Institute of Intellectual Co-operation, League of Nations, 1935-36; a member of the Committee on International Business Cycle Research, Economic Section of the League of Nations; a member of the Committee on Research in International Economic Relations, Rockefeller Foundation, summer of 1936; a member of the Social Science Research Council, 1934-36; and a member of the Executive Committee of the American Economic Association, 1935-36.

Richard L. Kozelka served as director of the special economic survey of a Minnesota community for the Works Progress Administration in the summer of 1936.

Arthur W. Marget was a member of the Executive Committee of the Conference on Research Problems in the Field of Income and Wealth, organized under the auspices of the National Bureau of Economic Research.

Roland S. Vaile served as consultant for the National Resources Committee on the Minnesota State Planning Board in 1934-36, as chairman of the Mayor's Housing Commission of Minneapolis in 1934-36, and as member of the Advisory Board for the Sumner Field Homes Housing Project, 1935-36. He was named director of the National Association of Marketing Teachers for 1935-36.

Dale Yoder served as personnel examiner for the state of Iowa in the United States Employment Service, 1934-35.

**Law School.** Everett Fraser served as American Law Institute adviser in one group and reporter of another group engaged in restating the law of property.

Wilbur H. Cherry was a member of the Advisory Committee on Federal Procedure appointed by the United States Supreme Court to draft proposed rules for procedure in all civil actions in the United States District Court, 1935-36; a member of the Minnesota State Bar Association Committee on Corporation Law, which drafted and obtained passage by the state legislature of the Minnesota Foreign Corporation Act, *Laws 1935*, ch. 200, and other acts relating to corporations, 1934-35; a member of the Minnesota State Bar Association Committee on Probate Law, which drafted and obtained passage by the state legislature of the Probate Code, *Laws 1935*, ch. 72, 1934-35; a member of the Board of Governors, Minnesota State Bar Association, 1934-36; and a member of the Committee on Jurisprudence and Law Reform of the Minnesota State Bar Association, 1934-36.

Horace Emerson Read was named consultant to the Committee on Tax Delinquency appointed by Governor Floyd B. Olson during the fall of 1934. He served as chairman of the Council of Round Table on Legislation, Association of American Law Schools, 1935, and supervised the drafting of a uniform act to secure attendance of witnesses from without the state, for the Interstate Commission on

Crime. He is a member of the special Committee on Non-Member Schools, appointed by the president of the Association of American Law Schools, 1936, and a member of the Minnesota State Bar Committee on the Revision of Real Property Laws, 1936.

Henry Rottschaefer supervised Minnesota Annotations to the American Law Institute's Restatement of the Law of Agency.

Edward S. Bade is a member of the drafting division of the Minnesota State Bar Association Committee on the Revision of the Property Laws.

Stanley V. Kinyon served as legal research assistant for the American Law Institute.

**Department of Agriculture.** Walter C. Coffey was reappointed chairman of the Finance Committee of the Board of Education of the Methodist Episcopal Church, a member of the Board of Education of the Methodist Episcopal Church, and chairman of the Executive Committee of the State Young Men's Christian Association. He was reappointed chairman of the Special Committee on Co-operative Meat Investigations of the American Society of Animal Production, chairman of the National Committee for the Office of Experiment Stations, United States Department of Agriculture, on Factors Which Influence Quality and Palatability of Meats, chairman of the Honor Roll Committee of the Minnesota Live Stock Breeders' Association, and a member of the Board of Directors of the International Livestock Exposition. He is a member of the Regional Rural Extension Committee of the Boy Scouts of America, a member of the National Youth Administration Advisory Committee, a member of the Committee on Instruction in Agriculture of the Association of Land-Grant Colleges and Universities, a member of the Committee on Projects and Correlation of Research of the Association of Land-Grant Colleges and Universities (for three years), and a member of the Board of Directors of the Minnesota Rural Rehabilitation Corporation.

Roger S. Mackintosh was re-elected secretary-treasurer of the Minnesota State Horticultural Society for 1934-35 and 1935-36.

Oscar B. Jesness served as member of the Minnesota State Planning Board and as member of the Land Use Advisory Board to advise with the Resettlement Administration in its land use program in the state.

Warren C. Waite represented the United States at the International Conference on Nutrition Problems held at Geneva, February, 1936.

Edwin C. Johnson served as vice-president of the Production Credit Corporation, Farm Credit Administration, St. Paul, until June 30, 1935.

George A. Pond was elected secretary-treasurer of the Minnesota Farm Managers' Association.

William Boss was named chairman of the Jury on Awards, American Society of Agricultural Engineers, 1936.

Jesse H. Neal served until February, 1935, as engineering adviser to the CCC organization in the soil erosion control program in Minnesota. He was an active member of the Drainage Committee of the Soil and Water Conservation Division of the American Society of Agricultural Engineers for the year ending June, 1936.

Loren W. Neubauer while on leave of absence from April 1 to October 1, 1936, worked on engineering inspection and recommendation in the WPA program for Minnesota.

Julius Romness was appointed to membership on the Rural Electrification Committee of the Minnesota Railroad and Warehouse Commission, and was named adviser to the Electric Power Committee of the Minnesota State Planning Board.

Harry B. Roe served as engineering adviser to the CCC organization in the soil erosion control program in Minnesota.

Arthur J. Schwantes was named chairman of the Committee on Soil Preparation and Tillage of the American Society of Agricultural Engineers for the year ending June, 1936. He was a member of the Research Committee of the Northwest Shippers Advisory Board for three years ending in 1935.

Hall B. White was appointed collaborator in the Bureau of Home Economics, U.S.D.A., Farm Housing Survey and Rural Electrification Survey of Minnesota, and was appointed co-operator of the Bureau of Agricultural Engineering, U.S. D.A. in the preparation of Farmers Bulletin 1738, *Farmhouse Plans*, published October, 1934.

Herbert K. Hayes will serve the Chinese Government as adviser on plant breeding from April 1, 1936 to March 31, 1937. He is a member of the Com-

mittee on Varietal Standardization and Registration of the American Society of Agronomy.

Albert C. Army was collaborator in the Soil Conservation Service, United States Department of Agriculture, Washington, D.C.

Harold K. Wilson served as collaborator in weed investigations, Office of Cereal Crops and Diseases, Bureau of Plant Industry, Washington, D.C. He was elected secretary-treasurer of the Minnesota Academy of Science, and chairman of the Committee on Student Sections, American Society of Agronomy.

Forrest R. Immer is a member of the Committee on Bibliography of Field Experiments of the American Society of Agronomy.

Ralph F. Crim was elected secretary of the Minnesota Crop Improvement Association and was district tobacco agent for the Agricultural Adjustment Administration, Washington, D.C.

Carl Borgeson was named seed certification official of the Minnesota Crop Improvement Association.

Evan F. Ferrin was appointed chairman of the Swine Section of the American Society of Animal Production and is a member of the Board of Directors and the Executive Committee of the National Swine Growers' Association.

Laurence M. Winters was named chairman of the Genetic Section of the American Society of Animal Production.

Philip A. Anderson is a member of the Board of Directors of the American Shropshire Registry Association.

Ross A. Gortner is liaison member of the Division of Biology and Agriculture and the Division of Chemistry and Chemical Technology, National Research Council, U. S. A., and member of the Colloid Committee, Division of Chemistry and Chemical Technology of the National Research Council.

Clyde H. Bailey served as councilor of the Soy Bean Regional Laboratory, U.S.D.A. at Champaign, Illinois.

Leroy S. Palmer is a member of the United States Pharmacopoeia Committee on Vitamins.

James B. Fitch did special work for the State Board of Control on the inspection of dairy herds. He was chairman of the American Dairy Science Association Committee Solids-not-fat Standards in Milk.

Willis B. Combs served as chairman of the Minnesota Dairy Industry Committee and as secretary of the Minnesota Cream Improvement Committee.

Harold Macy was elected secretary of the Minnesota Dairy Industry Committee. He did special research for the Minneapolis and St. Paul Health Departments in connection with the milk distributors in the above cities. He was also chairman of the American Dairy Science Association Committee on Bacteriological Methods for the Analysis of Milk and Dairy Products.

Ralph T. King has given much time during the past year as (unofficial) consultant on various federal and state projects involving game management. He was a delegate from the Junior Chamber of Commerce of Minneapolis to the National Wild Life Conference called by President Roosevelt. He is a member of the Committee on Wild Life Management of the American Society of Foresters.

Clarence E. Mickel was elected secretary-treasurer of the Entomological Society of America.

Arthur G. Ruggles worked in co-operation with the Federal Bureau of Entomology in Insect Pest Control. He served as president of the Central Plant Board on Quarantine and Inspection and as president of the International Great Plains Conference of Entomologists.

Henry Schmitz is a member of the Land Use Advisory Committee of the Minnesota State Planning Board.

Elvin C. Stakman served as a member of the Committee on Plant Quarantines, International Botanical Congress, a member of the Nominating Committee of the Division of Biology and Agriculture, National Research Council, a member of the Committee on Phytopathological Publications, American Phytopathological Society, and a member of the National Research Council of the Division of Biology and Agriculture.

Julian G. Leach is a member of the Committee on Potato Improvement for the American Phytopathological Society.

Matthew B. Moore served on the Committee on Seed Treatment of the American Phytopathological Society.

Arthur C. Smith was named chairman of the Committee on Education and Statistics of the American Poultry Association and of the Standard Revision Committee of the American Poultry Association.

Paul R. McMiller worked at mapping of the soils of the Goodland (or Ethan Allen) tract at the request of the Resettlement Administration. He made an examination of the tract for subsistence homesteads near Duluth, which was requested by the Subsistence Homestead Administration.

George H. Nesom made an examination of tracts of land offered for subsistence homesteads near Austin at the request of the Subsistence Homestead Administration, and of land near Cross Lake, Crow Wing County, considered for a co-operative colony, at the request of the Rural Rehabilitation Administration.

Frederick J. Alway prepared county soil quality maps for the State Planning Board.

Clifford P. Fitch served on the Minnesota State Live Stock Sanitary Board, was adviser for the Federal Project on Bang's Disease Control in Minnesota, was secretary-treasurer of the Minnesota State Veterinary Medical Society, chairman of the Committee on Bang's Disease of the United States Live Stock Sanitary Association, and referee on Uniform Technic for Conducting the Rapid or Plate Agglutination Test for Bang's Disease by the Conference of Official Research Workers in Animal Diseases in North America.

Willard L. Boyd was appointed a member of the Minnesota State Veterinary Examining Board, a member of the Minnesota Stallion Registration Board, and chairman of the Special Committee on Bang's Disease of the American Veterinary Medical Association.

Howard C. H. Kernkamp was elected to membership on the Executive Board of the American Veterinary Medical Association for a period of five years. He is secretary of the Section on Research of the American Veterinary Medical Association.

Reuel Fenstermacher was appointed resident secretary of the American Veterinary Medical Association. He serves as a member of the Committee on Infectious Diseases of the Minnesota State Veterinary Medical Society and as adviser in the Federal Bang's Disease Project in Minnesota.

Frank W. Peck while on leave of absence served as co-operative bank commissioner of the Farm Credit Administration, Washington, D.C. He was a member of the Land Use Committee of the Minnesota State Planning Board, of the State Advisory Committee (soil conservation for Minnesota), and of the State Ways and Means Committee (seed wheat).

W. Bruce Silcox while on leave of absence served as senior extension specialist of the Farm Credit Administration, Washington, D.C.

Julia O. Newton while on leave of absence served as senior extension specialist of the Farm Credit Administration, Washington, D.C.

Frank J. Brown was a member of the State Committee, Soil Conservation and Domestic Allotment Act (April 1 to June 30, 1936) and of the Board of Directors of the Minnesota Rural Rehabilitation Corporation.

William E. Morris, Edwin A. Hanson, and Walter H. Peters did educational work in the new Soil Conservation and Domestic Allotment Act.

Wallace W. Brookins served as chairman of the State Committee for Light Seed Wheat.

John O. Christianson served as adviser on rural education to the National Youth Administration, as chairman of the St. Paul Council on Peace Education, and as member of the Social Relations Committee of the Congregational Church of Minnesota. The Resettlement Administration called him to Washington, D.C., as a special consultant in the field of management and supervision.

Raymond L. Donovan is a member of the Land Use Committee of the State Planning Board.

Arthur F. Dahlberg was elected director of rural scouting, Headwaters Area Council.

Theodore S. Weir was named chairman of the Farm Bureau Unit.

Andrew Boss was in charge of the production control campaign of the Agricultural Adjustment Administration in Minnesota to December 31, 1935. On January 1, 1935 he was appointed director-at-large of the Farm Credit Administration for the Seventh District which includes Minnesota, North Dakota, Wisconsin, and Michigan.

Robert W. Murchie was appointed special consultant on Corporations for the Resettlement Administration in December, 1935.

Mark J. Thompson is a member of the Land Use Committee of the Minnesota State Planning Board and of the Fruit Zoning Committee of the Minnesota State Horticultural Society.

Albert M. Field served as chairman of the Program Committee of the North Central Region, Federal Board for Vocational Education, and as chairman of the curriculum committee for the North Central Region, Federal Board for Vocational Education.

**College of Science, Literature, and the Arts.** John B. Johnston served as chairman of the Committee on Educational Testing of the American Council on Education and was a member of the Directing Committee of the Progressive Education Association for the experiment in secondary school curriculum.

Royal R. Shumway was elected secretary of the Minnesota Junior College Deans' Association.

William S. Cooper is a member of the Committee on Wild Life and Nature Reserves of the National Research Council.

Alan E. Treloar was appointed a member of the Committee on Methods of Analysis of the American Association of Cereal Chemists.

Marbury B. Ogle is a member of the Executive Committee of the American Philological Association.

Samuel Newton Dicken was appointed research consultant of the Soil Erosion Service, Washington, D.C.

William H. Emmons is a member of the Committee on Ore Deposits of the National Research Council.

Ralph D. Casey was re-elected a member of the National Council on Research in Journalism for a three-year term beginning December, 1935. He is a member of the Council of the *Public Opinion Quarterly*, Princeton University.

Ralph O. Nafziger was re-elected a member of the National Council on Research in Journalism for a one-year term beginning December, 1935.

William L. Hart served as a member of the Commission on the Training and Utilization of Advanced Students of Mathematics of the Mathematical Association of America.

William Anderson was elected a member and secretary of the Social Science Research Council and member of the Minnesota State Planning Board.

Harold S. Quigley was appointed a member of the Committee on International Relations of the Social Science Research Council and research consultant for the Institute of Pacific Relations.

Clarence C. Ludwig was named executive secretary of the League of Minnesota Municipalities.

Benjamin E. Lippincott served as the American delegate to the meetings of the International Union of Local Authorities in Berlin.

Donald G. Paterson was the representative of the National Research Council on the Technical Advisory Board, Occupational Research Program, United States Employment Service, United States Department of Labor, Washington, D.C. He served as chairman of the Technical Committee of the National Occupational Conference, and was a member of the Advisory Committee on the Rehabilitation Guidance Program for the National Tuberculosis Association. He is the representative of the American Psychological Association on the Division of Anthropology and Psychology of the National Research Council, Washington, D.C. (1936-39), and was elected secretary of the American Psychological Association for a term ending in 1937.

William T. Heron was elected president of the Village Council of the village of Morningside for the years 1935-38.

Richard M. Elliott was named a director of the Psychological Corporation for the period 1932-35 and was re-elected for the years 1935 to 1938.

F. Stuart Chapin was named adviser to the National Educational Policies Commission of the NEA. He is a member of the National Committee on Hygiene of Housing of the American Public Health Association, of the Committee on Public School Relations of the American Sociological Society, of the Advisory Commission to the Federal Housing Administration on the Minneapolis Slum Clearance Project, and of the Mayor's Committee of Fifty on the Minneapolis relief crisis.

Clifford Kirkpatrick was appointed a member of the Advisory Committee concerned with a report on delinquency to be prepared by the Social Science Research Council.

Elizabeth G. Gardiner is a member of the Education Committee of the American Association of Medical Social Workers.

Frank M. Rarig served as a member of the Committee on Research in Oratory of the National Association of Teachers of Speech.

Bryng Bryngelson was elected treasurer of the American Speech Correction Association.

A. Dale Riley was named chairman of the committee to further the immediate release of Broadway plays to amateur groups, National Theater Conference. He was state director of the WPA Theater Project.

Franklin H. Knower served as a member of the Bibliography Committee of the National Association of Teachers of Speech.

Samuel Eddy during the past year has carried on an extensive program in supervising and co-operating with the United States Forest Service, the State Emergency Conservation Agencies, the State Game and Fish Department, and the National Youth Administration, in studying the lakes and streams of this state with special reference to their fish life.

Clarence E. Mickel was elected secretary-treasurer of the Entomological Society of America.

Dwight E. Minnich served as a member of the Committee for the Study of Problems of Feeble-mindedness in the State of Minnesota. He is chairman of the Committee on Education Tests of the American Society of Zoologists.

Lester Burrell Shippee was named chairman of the Executive Council of the Mississippi Valley Historical Association.

**Institute of Technology.** Lloyd H. Reyerson is a member of the National Colloid Symposium Committee.

Norville C. Pervier was elected treasurer of the Minnesota Section of the American Chemical Society.

Lee I. Smith was elected vice-president of the Minnesota Section of the American Chemical Society.

Walter M. Lauer was elected secretary of the Minnesota Section of the American Chemical Society.

Samuel C. Lind served as member of the Award Committee of the American Chemical Society, of the American Advisory Committee on Annual Tables of Constants and Numerical Data, and of the Committee on Accrediting Institutions of the American Chemical Society.

George Glockler was named chairman for 1935-36 and councilor for 1936-37 of the Minnesota Section of the American Chemical Society.

Charles A. Mann served on the Committee on Electro-organic Chemistry of the Electro-chemical Society.

George H. Montillon was elected president of the Minnesota Section of the Society for the Promotion of Engineering Education, 1935-36, and served on the Committee of Laboratory Procedures of Unit Operations in Chemical Engineering, June, 1935.

Lorenz G. Straub directed experiments in co-operation with the Minnesota State Board of Health on plumbing fixtures, the results to serve as a basis for setting up a state plumbing code. He served as a member of the Consulting Board, Loup River Public Power District; as consulting engineer, Federal Works Progress Administration, St. Anthony Falls Hydraulic Laboratory Project, University of Minnesota; and on national research committees as follows: Special Committee on Hydraulic Research of the American Society of Civil Engineers, Committee on Applied Hydraulics of the Society for the Promotion of Engineering Education, and chairman of the Committee on Dynamics of Streams of the American Geophysical Union. He was appointed by the National Academy of Sciences to serve on the Committee on Hydrology to prepare a book in a series on physical sciences.

Robert T. Jones was named federal regional supervisor of the Home Owners Loan Corporation. He served as a member of the Committee on Housing, American Institute of Architects and of the Housing Commission, Minneapolis, and was consultant for the Minneapolis Slum Clearance Project.

Roy Childs Jones is a member of the Education Committee of the American Institute of Architects.

Frederick M. Mann is a member of the Minnesota State Planning Board, the

Minneapolis City Planning Commission, the Minneapolis Mayor's Housing Commission, the Advisory Committee of the Sumner Field Housing Project, and the Board of Trustees of the Minneapolis Institute of Arts.

Frederic Bass was elected president of the State Board of Health. He was named chairman of the Committee on the Award of the Lamme Medal, Society for the Promotion of Engineering Education, and served on the Committee on Special Assessments for City Planning of the American Society of Civil Engineers.

Otto S. Zelner was appointed vice-chairman of the Committee on Surveying and Geodesy, Society for the Promotion of Engineering Education.

Fred C. Lang is a member of the Executive Committee of the Highway Research Board of the National Research Council, of the Committee on the Award of the Charles B. Dudley Medal, American Society for Testing Materials, of the Advisory Board of the Committee on Materials of the American Association of State Highway Officials, and is chairman of Division III on Cement, Concrete, and Macadam Materials.

Alvin S. Cutler was named chairman of the Committee on Qualifications and State Registration of Architects and Engineers.

S. Chatwood Burton served on the Committee for the Memorial Statue, Courthouse, St. Paul.

John D. Akerman is commissioner of aeronautics for the state of Minnesota in charge of engineering and aviation instruction. He was elected vice-president of the National Association of State Aeronautics Officials and chairman of the North Central Region. He is a member of the Aviation Committee for the Society for the Promotion of Engineering Education, of the Committee on Racing Design for the National Aeronautics Association, of the Special Technical Committee of Racing Pilots, Chapter of the National Aeronautics Association, of the Advisory Council of the National Intercollegiate Flying Club, of the National Committee of Awards for the W. E. Boeing Scholarships, of the Committee of Student Affairs of the Institute of the Aeronautical Sciences, and of the Committee on Education of the Institute of the Aeronautical Sciences.

Howard W. Barlow is a member of the Special Technical Committee of the Professional Racing Pilots, Chapter of the National Aeronautics Association, and of the Technical Committee of the Contest Board, National Aeronautics Association.

Elting H. Comstock was named chairman of the Minnesota Section of the American Institute of Mining and Metallurgical Engineers, and served as member of the Educational Foundation Committee of the Knights Templar Educational Foundation.

Charles F. Shoop was elected to the directorship of the Board of the Northwestern Bible School and Evangelical Seminary.

Charles A. Koepke was elected secretary-treasurer of the Minnesota Section of the American Society of Mechanical Engineers, 1935-36.

Thomas P. Hughes served as a member of the Fundamental Research Committee of the American Welding Society.

Henry E. Hartig was elected president of the Board of Education, Independent School District No. 24, Robbinsdale.

William T. Ryan was named adviser to the Engineering Department of the Minnesota Tax Commission, and served as a member of the Council of the S. P. E. E.

Frank B. Rowley served on the following committees of the American Society of Heating and Ventilating Engineers: Advisory Council, Committee of Atmospheric Dust and Air Cleaning Devices, Committee on Heat Requirements of Buildings and chairman of the Committee on Heat Transfer from Finned Tubes with Forced Air Circulation, all from 1934 to the present time. He was named chairman of the Standing Committee on Fiber Insulating Boards, United States Department of Commerce.

**Medical School.** Harold S. Diehl was named chairman of the State Advisory Committee for Maternal and Child Health. He is a member of the State Committee on Control of Tuberculosis and of the Board of Directors of the Minnesota Public Health Association.

Elias P. Lyon was elected president of the Phi Rho Sigma national honorary fraternity in medicine.

Jennings C. Litzenberg was elected director of the Community Health Service and served on the Publication Board of the *American Journal of Obstetrics and Gynecology*.

Clarence M. Jackson was elected president of the Minnesota State Board of Examiners in the Basic Sciences.

Irvine McQuarrie served as a member of the Pediatric Research Council.

Willis H. Thompson is a member of the State Child Welfare Board under the Minnesota State Board of Control.

Edgar J. Huenekens was named state chairman of the American Academy of Pediatrics, Section 3.

Katharine J. Densford has served as a member of the Board of Directors of the American Nurses' Association since 1934 and as a member of the Board of Directors of the *American Journal of Nursing* since 1935.

Cecelia Hauge was a member of the Minneapolis Civil Service Examining Board, 1935-36.

Gertrude Carlsrud was elected secretary of the Minnesota League of Nursing Education, 1934-35.

Ray M. Amberg was appointed a member for 1935, 1936, 1937 of the Out-Patient Committee of the American Hospital Association and a member of the Board of Directors of the Minnesota Hospital Association for 1936-37. He was elected treasurer of the Minnesota Hospital Association for 1935-37, and chairman of the Committee on Nursing of the Minnesota Hospital Association for 1936-37.

Ruth E. Boynton served as a member of the Advisory Committee on Maternal and Child Hygiene of the Minnesota Department of Health, and was elected secretary-treasurer of the American Student Health Association. She was named chairman of the Subcommittee on Interests and Activities of the Health Service Section for the Second National Conference on College Hygiene, and consultant for the Educational Policies Commission, Washington, D.C.

Eula B. Butzerin is a member of the Civil Service Board, School of Nursing Examinations.

Royal C. Gray was elected secretary of the Minnesota Society of Neurology and Psychiatry.

J. Charnley McKinley was elected secretary-treasurer of the Minnesota State Board of Examiners in the Basic Sciences.

Henry E. Michelson was named chairman of the Research Committee of the American Dermatological Association and chairman of the Dermatological Conference of the Mississippi Valley.

Leo G. Rigler was named consultant for the Tuberculosis Division of the Minnesota State Board of Control. He is a member of the Council of the American Association for the Advancement of Science representing the American Roentgen Ray Society, and was elected secretary-treasurer of the Minnesota Radiological Society.

Frances M. Money was appointed chairman of the Committee to Study Problems of Field Work Supervision for the Education Committee of the American Association of Medical Social Workers, and chairman of the Membership Committee of the American Association of Medical Social Workers.

William A. O'Brien is a member of the Board of Directors of the American Society for the Control of Cancer.

Horace Newhart was appointed member of the Council of the American Otolological Society for 1936-37 and of the Council of the American Laryngological Society for 1936-37.

Walter E. Camp was elected secretary of the Minnesota Academy of Ophthalmology and Otolaryngology.

**General College.** Malcolm S. MacLean was elected a member of the Executive Board of the Progressive Education Association.

Ivol Spafford was elected a member of the Advisory Board of the Progressive Education Association and was appointed by the General Education Board to study teaching for home life and marriage in American universities and colleges.

Robert A. Kissack, Jr., was appointed by the General Education Board to study the British Film Institute and the use of visual aids in the schools of the British Isles. He was lecturer on invitation before the International Congress for Visual Education in England in the summer of 1935.

Francis S. Appel was appointed to the General Education Board Commission for the study of the teaching of English composition, 1936.

**College of Education.** Harold R. Benjamin was appointed director of education in the Works Progress Administration of Minnesota effective June 9, 1936.

Leo J. Brueckner was named director of the Study of Elementary Education for the New York Regents' Inquiry into the Character and Cost of Public Education in the State of New York, 1936.

Harl R. Douglass served as consultant and adviser in secondary education for the American Youth Commission during the winter quarter, 1936.

Marcia Edwards was appointed to conduct a study of the administration of graduate work for the Carnegie Foundation for the Advancement of Teaching. A special grant of \$11,000 was given by the Foundation for the study.

Robert S. Hilpert served as consultant in the field of art education on the New York Regents' Inquiry into the Character and Cost of Public Education in the State of New York.

Dora V. Smith was consultant in the field of English on the New York Regents' Inquiry into the Character and Cost of Public Education in the State of New York.

Edgar B. Wesley was appointed chairman of a Social Studies Committee created by the National Society for the Study of Education to work out a social studies curriculum, and served as consultant in the field of the social studies on the New York Regents' Inquiry into the Character and Cost of Public Education in the State of New York.

**General Extension Division.** Herbert E. Sorenson was named state director of emergency education for the year 1934-35. He conducted an extensive research investigation in adult education and adult abilities at a considerable number of universities throughout the United States.

**Library.** Harold G. Russell served on the Book Buying Committee of the American Library Association, 1934-36.

Thomas Paul Fleming served as a member of the Committee on Binding of the American Library Association, 1934-36, and as a member of the Committee on Resources of Midwest College and University Libraries, 1936. He was elected chairman of Heads of Acquisitions Departments of Research Libraries, 1934-36, and secretary of University and Reference Libraries, Round Table for 1936.

**School of Mines and Metallurgy.** Ralph L. Dowdell served as a member of the Handbook Committee of the American Society for Metals and of the Executive and Program committees of the Northwest Chapter of the American Society for Metals.

Henry S. Jerabek is a member of the Executive Committee of the Northwest Chapter of the American Society for Metals.

Arthur C. Forsyth is a member of the Executive Committee of the Northwest Chapter of the American Society for Metals.

**College of Pharmacy.** Gustav Bachman is a member of the National Formulary Revision Committee.

Earl B. Fischer served as a member of the Executive Committee (and past president) of Plant Science Seminar to 1936. He is an associate member of the Subcommittee on Pharmacognosy and Pharmaceutical Botany of the Committee on the National Formulary, and of the Subcommittee on Pharmacognosy and Pharmaceutical Botany of the Committee of Revision of the United States Pharmacopoeia XI.

Charles V. Netz is a member of the Committee for the Collection of Information Pertaining to Professional Pharmacy, American Pharmaceutical Association, and of the Problems and Plans Committee, American Association of Colleges of Pharmacy. He was elected treasurer of the Minnesota Section of the American Chemical Society.

Frederick J. Wulling was appointed to membership on the Brooklyn Botanic Garden Committee in 1936.

**University Testing Bureau.** Edmund G. Williamson served as consultant on college guidance and personnel work at Northeast Missouri State Teachers College, Rochester Junior College, St. Thomas College of St. Paul, and St. Mary's College of Winona.

**Department of Physical Education for Women.** Gertrude M. Baker was elected secretary of the American Physical Education Association Research Section, 1935-36, 1936-37.

J. Anna Norris served as a member of the Committee of Advisers to the Program Committee of the National Association of Directors of Physical Education for College Women, 1935-36.

Florence M. Warnock was named state chairman of the Women's Division, National Amateur Athletic Federation.

**BUILDINGS AND GROUNDS**

## BUILDINGS AND GROUNDS

### LAND

During 1934-36 additions to the Main campus were made by the purchase of the following properties:

Part of Lot 3, Block 19, St. Anthony City, approximately 5,775 square feet.

Parts of Lots 4 and 5, Block 19, St. Anthony City, approximately 3,280 square feet.

The entire Block L, Tuttle's Addition to St. Anthony City. This block is bounded on the south by 4th Street S.E., on the north by 5th Street S.E., on the west by 17th Avenue S.E., and on the east by 18th Avenue S.E., and comprises  $2\frac{1}{2}$  acres.

The following property was added to the Farm campus:

Approximately 19.82 acres in Ramsey County just north of Como Avenue, St. Paul, and east of Cleveland Avenue, St. Paul, which was acquired in exchange for  $12\frac{1}{2}$  acres formerly owned by the University, lying just west of the State Fair Grounds.

At the West Central School and Station at Morris, approximately 160.55 acres of land adjoining the station were purchased.

### LAND IMPROVEMENTS

**Main campus.** The old frame houses formerly used as co-operatives, located at 1800, 1804, 1808, 1812 University Avenue S.E. were torn down and the area formerly occupied by them was added to the Athletic Field.

A five-foot-wide hedge was added to the landscape work along the Mall, which has greatly added to its appearance.

A number of flower gardens were added along Seventeenth Avenue, and a new lawn has been constructed in the area bounded by the Women's Gymnasium Addition, Burton Hall, and the Psychology Building.

With the construction of the Center for Continuation Study, the old Parade Ground passed out of existence and a lawn is being constructed on the area.

**Farm campus.** A new concrete pavement to replace the old dirt and oil roads on the Farm campus has been installed as follows: from Cleveland Avenue east to Haecker Hall, from the Administration Building south past the Agricultural Engineering Building and Haecker Hall to Commonwealth Avenue, from the Livestock Pavilion south to the Veterinary Building, and from the Veterinary Building west to the Agricultural Engineering Building and Haecker Hall.

New water mains of adequate size were installed from the Seed House north past the horse barn and to the Machinery Shed, from the Livestock Pavilion south to the Veterinary Buildings, and from the Livestock Pavilion east as far as the hog houses.

A new retaining wall was constructed with the assistance of the Works Progress Administration along the south side of the intercampus car line where this car line passes through the University Grove cut—a distance of some 600 feet; the banks of the cut have been properly graded down and planted with sumac to prevent the banks from washing.

New sewer lines of adequate size have been installed with the assistance of labor through the Works Progress Administration. These new sewers separate the sanitary sewage from the storm sewers, so that the sanitary sewage now all enters the sewage system of the city of St. Paul.

The area north of the Gymnasium has been properly graded and made into a fine lawn.

### NEW BUILDINGS AND TUNNELS

**Main campus.** The following buildings and additions have been completed or are under construction and nearly completed on the Main campus:

1. Addition to the Women's Gymnasium.
2. Terrace addition to the Athletic Building.
3. Fourth floor addition to the Storehouse and Shops Building.
4. Center for Continuation Study.
5. Psychopathic roof house addition to the University of Minnesota Hospitals.

*Addition to the Women's Gymnasium.*—This building was constructed with income from the following sources:

United States Public Works Administration .....	\$40,800.00
Athletic fund .....	15,000.00
Towel fund .....	31,962.00
Dormitory fund .....	7,000.00
	\$94,762.00

This building contains a new swimming pool for girls, some additional office space, a handball court, and a field house with dirt floor, and provides fine facilities for indoor play for girls during the winter months.

*Terrace addition to the Athletic Building.*—This addition was constructed with income and receipts from the following sources:

United States Public Works Administration .....	\$33,260.00
Athletic receipts .....	38,740.00
	\$72,000.00

This unit, which is of fireproof construction, really completes the Athletic Building. It is constructed on the east side of the building below the first floor level, and contains adequate training quarters and locker rooms for athletic teams as well as a very fine equipment room.

*Fourth floor addition to the Storehouse and Shops Building.*—This addition was financed with income from the following sources:

United States Public Works Administration .....	24,405.00
University funds .....	29,040.00
	\$53,445.00

With the construction of the fourth floor on the Storehouse and Shops Building it has been possible to rearrange the space for various departments to great advantage to all. The steamfitting, plumbing, electrical, automobile repair, and tin shops were moved to the fourth floor. The space formerly occupied by these shops was allocated between the Printing Department and the Storehouse. The freight elevator in this structure was greatly enlarged, so that the handling of all supplies is a much more economical operation. Even the largest trucks may now be taken up to the Automobile Repair Department.

*Center for Continuation Study.*—This building was financed with income and receipts from the following sources:

United States Public Works Administration .....	\$123,750.00
University of Minnesota service enterprise funds .....	161,000.00
	\$284,750.00

This building is located just across Pillsbury Drive north of Pillsbury Hall, is three stories high, L-shaped, and of fireproof construction; the brickwork and design harmonize with that used in Folwell Hall. The building provides fine living quarters for seventy-five people, a dining room large enough to seat one hundred people, a lounge room, several classrooms, and a chapel. The basement of this building was enlarged to provide a new parking garage with facilities for two hundred cars. This garage is connected by a stairway to Folwell Hall and by a tunnel to the basement floor of Cyrus Northrop Memorial Auditorium and to the basement floor of the Minnesota Union.

*Psychopathic roof house addition to the University of Minnesota Hospitals.*— This is being constructed with income and receipts from the following sources:

United States Public Works Administration .....	\$ 57,865.00
State appropriation .....	70,724.00
	\$128,589.00

It is being constructed on the roof covering the Todd and Christian additions to the University of Minnesota Hospitals and is connected to the roof house over the Elliot Memorial Hospital. This addition will provide excellent facilities for the treatment of psychopathic patients.

**Southeast Experiment Station—Waseca.** A small office and laboratory building was constructed at this station from funds supplied by the University. It has two stories and a basement, the basement providing a fireproof vault for safeguarding valuable records, a heating plant, shower baths, etc. The main floor is for offices and a laboratory; the second floor is so arranged as to have four offices. The building is a frame and stucco construction.

**Forestry Station—Itasca Park.** Four new imitation log cabins, made necessary by the large increase in enrolment in the Forestry Division, were constructed at this forestry station. Each is large enough to adequately accommodate eight students.

#### IMPROVEMENTS AND ALTERATIONS

**Main campus.** Besides customary maintenance, the following major alterations deserve special mention:

The School of Business Administration Building was completely renovated, a new entrance constructed, a fireproof hall, stairway, and fireproof doors leading from the classrooms into the hall were installed, and the heating system completely revamped.

The old heating system in Pillsbury Hall was completely revamped and temperature control installed.

A new electric elevator leading from the kitchen to the dining rooms on the second floor was installed in the Minnesota Union.

In Burton Hall a new terrazzo floor was installed over the entire main entrance on the ground floor, and the ladies' lavatory was completely revamped. Also, a new electric transformer vault was installed in this building to take the place of one which was located outside the building and which occasionally filled with water during the spring thaws.

Adequate quarters were constructed for the Department of Visual Education in Westbrook Hall. This work included the installation of offices, a laboratory and shop, together with a room which may be used for taking talking pictures.

In the Armory the room which formerly held the old swimming pool has been made into a workshop for the Department of Aeronautical Engineering, and the old shower-bath room just across the hall from the swimming pool now houses

the offices of this department. The north wing of the Armory has been revamped for a laboratory for aeronautics, and a fine classroom constructed on the balcony.

In the south end of this building the offices which formerly housed the Athletic Department have been revamped for the Military Department; and adequate training quarters for the University High School were installed in the south locker room.

The animal quarters in Millard Hall have been revamped, and in the unused portion of the fourth floor space between Millard Hall and the new Medical Sciences Building an additional set of animal quarters has been constructed.

In the Chemistry Building a very complete ventilating system was installed for adequate ventilation of the chemistry storerooms and manufacturing plants which are located in the basement.

A large set of folding doors was installed in the west gymnasium room of the Women's Gymnasium so that it is possible to use this room for two separate classes. The completion of the new addition made this improvement possible.

At the Heating Plant a new addition was erected to provide adequate shop space and office and storage space for various supplies which are needed in such a plant. The railroad trestle which is used for unloading coal was completely rebuilt, a fine new water softener and feed water heater were installed, and the contract awarded for a new boiler.

In the Library Building four floors of new stacks were installed at a considerable expense to take care of the very rapid growth of the library.

The old beaver ponds on the west side of the Zoology Building have been totally enclosed and revamped to facilitate research work for this department.

Practically all of the offices in the Administration Building have been acoustically treated.

Two large underground dark rooms were constructed on the south side of the Botany Building to facilitate certain research and to add to the storage space.

In the Law Building additional stacks were constructed on the two lower levels, and several of the large rooms have been acoustically treated.

Quarters have been constructed in Cyrus Northrop Memorial Auditorium to house the University Art Gallery and the Fine Arts Room. In this building also there has been installed a complete public address system.

The Nurses' Hall has been completely painted throughout.

A new deep tunnel and shaft have been constructed leading from the main steam tunnel to the new Center for Continuation Study.

Adequate temperature control has been installed in Westbrook Hall, Sanford Hall, Shevlin Hall, and the Women's Gymnasium.

**Farm campus.** In the old Botany Building certain major alterations have been completed. A large classroom was divided horizontally to provide a new classroom and office space for members of the department. Also, many of the old fir floors were renewed with new maple floors.

A new electrical switchboard was installed in the Administration Building on the stage of the auditorium to take care of stage and house lighting. Also, the auditorium in this building was acoustically treated.

In the Agricultural Engineering Building a new concrete floor was installed in the machinery display part, new unit heaters were installed, and the roof was renewed.

A new 500-kilowatt alternating current generator was installed in the Power House, together with a new central hot water tank, the water to be heated with

exhaust steam. A new exhaust steam line was run from the heating plant to the Gymnasium, so that the various buildings along the line are now heated with exhaust steam from the turbines which drive the electrical generators.

Electric meters have now been installed in practically all the buildings on the Farm campus, so that for the first time we are in a position to know exactly how much electricity each building is using.

### CONCLUSION

The statistical reports of the registrar and of the comptroller and the most significant portions of the reports submitted by the deans of the colleges and heads of other university administrative units are submitted to complete this report.

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 1934-36.

The tables show enrolments in the several units of college grades, 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 16,425 in 1934-35, an increase of 8.5 per cent over the previous year, and a total of 18,308 in 1935-36, a further increase of 11.5 per cent as compared with 1934-35.

The enrolment in subcollegiate units showed a decrease of 23 per cent in 1934-35 but for the last year of the biennium, there was an increase of 41 per cent in this group, bringing the total to 4,272. Gains are recorded in extension enrolments for each year of the biennium. The increase for 1934-35 was 24 per cent; for 1935-36, 6.7 per cent. The net grand total number of individuals enrolled in all units of the University for the year 1935-36 has reached a high of 30,546.

In 1934-35 the University conferred 2,196 degrees, and in 1935-36, 2,428. These figures include the Bachelor's degrees, professional degrees, and advanced degrees. The number of each degree 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.

TABLE I. COLLEGIATE STUDENTS BY SCHOOLS AND COLLEGES, 1934-36

COLLEGE OR SCHOOL	YEAR 1934-35			YEAR 1935-36			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
<b>GENERAL COLLEGE:</b>								
Second year .....	219	113	332	314	168	482	150	.....
First year .....	562	320	882	460	288	748	.....	134
Unclassed .....	.....	2	2	2	2	4	2	.....
Totals .....	781	435	1,216	776	458	1,234	18	.....
<b>UNIVERSITY COLLEGE:</b>								
Seniors .....	17	19	36	11	14	25	.....	11
Juniors .....	13	9	22	6	24	30	8	.....
Sophomores .....	3	2	5	1	4	5	.....	.....
Freshmen .....	1	1	2	1	1	2	.....	.....
Unclassed .....	.....	2	2	3	.....	3	1	.....
Totals .....	34	33	67	22	43	65	.....	2
<b>SCIENCE, LITERATURE, AND THE ARTS:</b>								
Seniors .....	140	185	325	152	205	357	32	.....
Juniors .....	189	200	389	208	250	458	69	.....
Sophomores .....	1,130	754	1,884	1,327	919	2,246	362	.....
Freshmen .....	1,130	856	1,986	1,314	917	2,231	245	.....
Unclassed .....	117	162	279	74	123	197	.....	82
Totals .....	2,706	2,157	4,863	3,075	2,414	5,489	626	.....

## THE PRESIDENT'S REPORT

TABLE I—Continued

COLLEGE OR SCHOOL	YEAR 1934-35			YEAR 1935-36			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
<b>ENGINEERING AND ARCHITECTURE:</b>								
Seniors .....	299	6	305	254	4	258	.....	47
Juniors .....	274	2	276	273	4	277	1	.....
Sophomores .....	246	1	247	255	2	257	10	.....
Freshmen .....	261	1	262	352	3	355	93	.....
Unclassed .....	10	2	12	2	1	3	.....	9
Totals .....	1,090	12	1,102	1,136	14	1,150	48	.....
<b>AGRICULTURE, FORESTRY, AND HOME ECONOMICS:</b>								
Seniors .....	78	90	168	78	86	164	.....	4
Juniors .....	75	61	136	123	60	183	47	.....
Sophomores .....	181	153	334	320	176	496	162	.....
Freshmen .....	243	113	356	329	167	496	140	.....
Unclassed .....	27	22	49	28	23	51	2	.....
Totals .....	604	439	1,043	878	512	1,390	347	.....
<b>LAW:</b>								
Seniors .....	54	2	56	55	2	57	1	.....
Juniors .....	68	2	70	61	2	63	.....	7
Sophomores .....	101	8	109	105	7	112	3	.....
Freshmen .....	82	5	87	92	6	98	11	.....
Unclassed .....	1	2	3	2	2	4	1	.....
Totals .....	306	19	325	315	19	334	9	.....
<b>MEDICINE:</b>								
Internes: .....	157	8	165	135	4	139	.....	26
Seniors .....	76	4	80	109	5	114	34	.....
Juniors .....	126	4	130	120	3	123	.....	7
Sophomores .....	136	5	141	135	5	140	.....	1
Freshmen .....	144	7	151	144	8	152	1	.....
Unclassed .....	20	2	22	3	.....	3	.....	19
Totals .....	659	30	689	646	25	671	.....	18
MEDICAL TECHNICIANS .....	1	68	69	.....	85	85	16	.....
<b>NURSING:</b>								
Third year .....	.....	101	101	.....	65	65	.....	36
Second year .....	.....	93	93	.....	105	105	12	.....
First year .....	.....	113	113	.....	104	104	.....	9
Affiliates .....	.....	209	209	.....	247	247	38	.....
Unclassed .....	.....	118	118	.....	75	75	.....	43
Totals .....	.....	634	634	.....	596	596	.....	38
<b>DENTISTRY:</b>								
Seniors .....	79	1	80	89	.....	89	9	.....
Juniors .....	77	1	78	112	1	113	35	.....
Prejuniors .....	119	1	120	92	1	93	.....	27
Unclassed .....	4	.....	4	1	.....	1	.....	3
Totals .....	279	3	282	294	2	296	14	.....
<b>DENTAL HYGIENISTS:</b>								
Second year .....	.....	27	27	.....	36	36	9	.....
First year .....	.....	37	37	.....	46	46	9	.....
Totals .....	.....	64	64	.....	82	82	18	.....

TABLE I—Continued

COLLEGE OR SCHOOL	YEAR 1934-35			YEAR 1935-36			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
<b>MINES AND METALLURGY:</b>								
Seniors .....	26		26	28		28	2	
Juniors .....	34		34	43		43	9	
Sophomores .....	45		45	42		42		3
Freshmen .....	110		110	126		126	16	
Totals .....	215		215	239		239	24	
<b>PHARMACY:</b>								
Seniors .....	42	6	48	30	6	36		12
Juniors .....	31	9	40	45	5	50	10	
Sophomores .....	49	4	53	49	6	55	2	
Freshmen .....	18	2	20	16		16		4
Unclassed .....	1		1	3		3	2	
Totals .....	141	21	162	143	17	160		2
<b>CHEMISTRY:</b>								
Seniors .....	95	1	96	87	1	88		8
Juniors .....	108	2	110	98	1	99		11
Sophomores .....	88	2	90	106	7	113	23	
Freshmen .....	109	4	113	144	5	149	36	
Unclassed .....	2		2	3		3	1	
Totals .....	402	9	411	438	14	452	41	
<b>EDUCATION:</b>								
Seniors .....	133	308	441	133	357	490	49	
Juniors .....	126	356	482	105	364	469		13
Sophomores .....	56	140	196	65	117	182		14
Freshmen .....	80	102	182	80	85	165		17
Unclassed .....	87	228	315	89	298	387	72	
Totals .....	482	1,134	1,616	472	1,221	1,693	77	
<b>BUSINESS ADMINISTRATION:</b>								
Seniors .....	160	39	199	159	46	205	6	
Juniors .....	242	63	305	272	65	337	32	
Unclassed .....	18	3	21	16	2	18		3
Totals .....	420	105	525	447	113	560	35	
GRADUATE (including Mayo): .....	1,141	474	1,615	1,281	525	1,806	191	
Total academic year .....	9,261	5,637	14,898	10,162	6,140	16,302	1,404	
Less duplicates .....	525	351	876	606	368	974	98	
Net total academic year .....	8,736	5,286	14,022	9,556	5,772	15,328	1,306	
<b>SUMMER SESSION:</b>								
First term .....	1,518	2,010	3,528	1,839	2,352	4,191	663	
Second term .....	775	714	1,489	822	709	1,531	42	
Totals .....	2,293	2,724	5,017	2,661	3,061	5,722	705	
Less duplicates .....	562	553	1,115	612	500	1,112		3
Net total Summer Session .....	1,731	2,171	3,902	2,049	2,561	4,610	708	
Mayo Foundation (graduate) .....	176	9	185	202	15	217	32	
Net total summer enrolment .....	1,907	2,180	4,087	2,251	2,576	4,827	740	
Grand total (collegiate) .....	10,643	7,466	18,109	11,807	8,348	20,155	2,046	
Less duplicates .....	980	704	1,684	1,131	716	1,847	163	
Net grand total (collegiate) .....	9,663	6,762	16,425	10,676	7,632	18,308	1,883	

TABLE IIA. COLLEGIATE ENROLMENT BY QUARTERS, 1934-35

COLLEGE OR SCHOOL	FIRST SUMMER SESSION, 1934			SECOND SUMMER SESSION, 1934			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 .....	5	3	8	3	1	4	596	331	927	624	339	963	566	330	896	784	436	1,220
University College .....	5	3	8	3	2	5	23	29	52	24	29	53	27	27	54	26	30	56
Science, Literature, and the Arts	276	379	655	140	97	237	2,347	1,915	4,262	2,222	1,816	4,038	2,042	1,695	3,737	2,919	2,502	5,421
Engineering and Architecture	82	3	85	73	.....	73	1,002	11	1,013	990	11	1,001	919	11	930	1,137	13	1,150
Agriculture, Forestry, and Home Economics .....	57	83	140	1	5	6	524	390	914	525	365	890	471	348	819	617	487	1,104
Law .....	.....	.....	.....	.....	.....	.....	305	19	324	290	18	308	282	16	298	306	19	325
Medicine .....	249	13	262	235	11	246	560	30	590	635	31	666	600	29	629	733	33	766
Medical Technicians .....	.....	8	8	.....	3	3	1	52	53	1	52	53	.....	56	56	1	70	71
Nursing .....	.....	382	382	.....	327	327	.....	463	643	.....	415	415	.....	377	377	.....	751	751
Dentistry .....	46	1	47	30	1	31	275	3	278	263	3	266	261	3	264	291	2	293
Dental Hygienists .....	.....	1	1	.....	1	1	.....	61	61	.....	51	51	.....	49	49	.....	65	65
Mines and Metallurgy .....	1	.....	1	2	.....	2	205	.....	205	179	.....	179	152	.....	152	215	.....	215
Pharmacy .....	9	1	10	10	.....	10	132	21	153	129	20	149	124	19	143	144	20	164
Chemistry .....	56	.....	56	32	.....	32	369	8	377	371	8	379	341	9	350	426	8	434
Education .....	187	769	956	61	147	208	371	911	1,282	385	890	1,275	388	871	1,259	662	1,872	2,534
Business Administration .....	53	15	68	23	5	28	325	86	411	349	83	432	324	87	411	454	113	567
Graduate .....	668	358	1,026	338	123	461	885	310	1,195	878	311	1,189	840	319	1,159	1,623	823	2,446
Totals .....	1,694	2,019	3,713	951	723	1,674	7,920	4,640	12,560	7,865	4,442	12,307	7,337	4,246	11,583	10,338	7,244	17,582
Less duplicates (transfers between colleges) .....	7	8	15	4	3	7	37	44	81	98	82	180	48	50	98	685	488	1,173
Net totals .....	1,687	2,011	3,698	947	720	1,667	7,883	4,596	12,479	7,767	4,360	12,127	7,289	4,196	11,485	9,653	6,756	16,409

\* This represents a net count of individuals with all duplicates deducted.

TABLE IIB. COLLEGIATE ENROLMENT BY QUARTERS, 1935-36

COLLEGE OR SCHOOL	FIRST SUMMER SESSION, 1935			SECOND SUMMER SESSION, 1935			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 .....	15	6	21	9	1	10	612	360	972	630	355	985	563	330	893	789	457
University College .....	4	7	11	.....	1	1	15	33	48	18	37	55	22	34	56	23	46	69
Science, Literature, and the Arts .....	292	398	690	123	136	259	2,730	2,180	4,910	2,576	2,029	4,605	2,332	1,893	4,225	3,303	2,769	6,072
Engineering and Architecture .....	64	4	68	47	.....	47	1,029	12	1,041	1,017	12	1,029	954	10	964	1,180	16	1,196
Agriculture, Forestry, and Home Economics .....	118	69	187	14	6	20	774	460	1,234	774	447	1,221	670	395	1,065	899	560	1,459
Law .....	.....	.....	.....	.....	.....	.....	315	19	334	304	16	320	292	15	307	315	19	334
Medicine .....	282	7	289	258	6	264	570	19	589	591	22	613	558	21	579	727	22	749
Medical Technicians .....	1	16	17	.....	1	1	.....	72	72	.....	72	72	.....	67	67	1	89	90
Nursing .....	.....	301	301	.....	246	246	.....	368	368	.....	347	347	.....	391	391	.....	728	728
Dentistry .....	80	2	82	52	2	54	292	3	295	273	3	276	273	3	276	300	4	304
Dental Hygienists .....	.....	.....	.....	.....	1	1	.....	79	79	.....	65	65	.....	60	60	.....	82	82
Mines and Metallurgy .....	2	.....	2	2	.....	2	225	.....	225	185	.....	185	171	.....	171	239	.....	239
Pharmacy .....	11	1	12	9	.....	9	133	17	150	128	16	144	125	16	141	145	18	163
Chemistry .....	54	4	58	34	.....	34	385	9	394	372	11	383	373	11	384	462	18	480
Education .....	263	1,067	1,330	53	202	255	385	843	1,228	400	895	1,295	378	907	1,285	724	2,229	2,953
Business Administration .....	57	20	77	21	3	24	347	93	440	360	93	453	362	93	455	486	21	507
Graduate .....	798	465	1,263	402	119	521	1,004	326	1,330	1,006	338	1,344	1,028	376	1,404	1,849	952	2,801
Totals .....	2,041	2,367	4,408	1,024	724	1,748	8,816	4,893	13,709	8,634	4,758	13,392	8,101	4,622	12,723	11,442	8,030	19,472
Less duplicates (transfers between colleges) .....	21	5	26	1	.....	1	101	57	158	118	80	198	86	28	114	744	493	1,237
Net totals .....	2,020	2,362	4,382	1,023	724	1,747	8,715	4,836	13,551	8,516	4,678	13,194	8,015	4,594	12,609	10,698	7,537	18,235

\* This represents a net count of individuals with all duplicates deducted.

TABLE III. SUBCOLLEGIATE STUDENTS, 1934-36

SCHOOL OR COURSE	YEAR 1934-35			YEAR 1935-36			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
<b>CENTRAL SCHOOL OF AGRICULTURE:</b>								
Three-year course:								
Seniors .....	102	32	134	95	43	138	4	.....
Juniors .....	62	40	102	84	35	119	17	.....
Freshmen .....	71	19	90	94	31	125	35	.....
Unclassed .....	88	31	119	110	33	143	24	.....
Totals .....	323	122	445	383	142	525	80	.....
Intermediate .....	29	13	42	20	8	28	.....	14
Total school registration	352	135	487	403	150	553	66	.....
<b>NORTHWEST SCHOOL OF AGRICULTURE:</b>								
Three-year course:								
Seniors .....	49	14	63	46	33	79	16	.....
Juniors .....	63	22	85	46	30	76	.....	9
Freshmen .....	67	41	108	115	41	156	48	.....
Unclassed .....	21	17	38	29	20	49	11	.....
Totals .....	200	94	294	236	124	360	66	.....
Intermediate .....	24	11	35	27	8	35	.....	.....
Total school registration	224	105	329	263	132	395	66	.....
<b>WEST CENTRAL SCHOOL OF AGRICULTURE:</b>								
Three-year course:								
Seniors .....	43	15	58	35	18	53	.....	5
Juniors .....	40	15	55	78	38	116	61	.....
Freshmen .....	79	30	109	95	53	148	39	.....
Unclassed .....	34	37	71	26	33	59	.....	12
Totals .....	196	97	293	234	142	376	83	.....
Intermediate .....	16	9	25	10	5	15	.....	10
Total school registration	212	106	318	244	147	391	73	.....
<b>NORTH CENTRAL SCHOOL OF AGRICULTURE:</b>								
Three-year course:								
Seniors .....	13	.....	13	18	.....	18	5	.....
Juniors .....	14	.....	14	15	.....	15	1	.....
Freshman .....	40	.....	40	40	.....	40	.....	.....
Unclassed .....	23	.....	23	11	.....	11	.....	12
Totals .....	90	.....	90	84	.....	84	.....	6
Intermediate .....	.....	.....	.....	8	.....	8	8	.....
Total school registration	90	.....	90	92	.....	92	2	.....
UNIVERSITY HIGH SCHOOL .....	211	181	392	200	202	402	10	.....
<b>NURSERY SCHOOL AND KINDERGARTEN</b>								
.....	.....	.....	.....	38	42	80	80	.....
Net totals of schools .....	1,089	527	1,616	1,240	673	1,913	297	.....

TABLE III—Continued

SCHOOL OR COURSE	YEAR 1934-35			YEAR 1935-36			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
<b>SHORT COURSES:</b>								
Creamery Operators .....	43	1	44	49	.....	49	5	.....
Eleventh Annual Women's Camp .....	.....	149	149	.....	91	91	.....	58
Four-H Club (Crookston) .....	425	450	875	442	458	900	25	.....
Four-H Club (Grand Rapids) .....	.....	.....	.....	97	127	224	224	.....
Four-H Club (Morris) .....	105	181	286	333	476	809	523	.....
Greenskeepers .....	35	.....	35	39	.....	39	4	.....
Ice Cream Makers .....	32	.....	32	.....	.....	.....	.....	32
Scout Masters .....	.....	.....	.....	62	.....	62	62	.....
Swimming (Crookston) .....	15	.....	15	27	.....	27	12	.....
Women's Week (Morris) .....	.....	.....	.....	.....	213	213	213	.....
Grand totals short courses	655	781	1,436	1,049	1,365	2,414	978	.....
Less duplicates .....	.....	1	1	.....	2	2	1	.....
Net totals short courses	655	780	1,435	1,049	1,363	2,412	977	.....
Grand totals schools and short courses	1,744	1,307	3,051	2,289	2,036	4,325	1,274	.....
Less duplicates .....	19	3	22	38	15	53	31	.....
Net totals schools and short courses .....	1,725	1,304	3,029	2,251	2,021	4,272	1,243	.....

## THE PRESIDENT'S REPORT

TABLE IV. EXTENSION STUDENTS, 1934-36

COURSE	YEAR 1934-35			YEAR 1935-36			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
GENERAL EXTENSION .....	3,086	3,264	6,350	3,542	3,441	6,983	633	.....
EXTENSION SHORT COURSES:								
Allergic diseases .....	19	.....	19	.....	.....	.....	.....	19
Dental short courses .....	55	.....	55	.....	.....	.....	.....	55
Dental short courses in:								
Amalgam restorations .....	11	.....	11	.....	.....	.....	.....	11
Refractions .....	9	.....	9	9	.....	9	.....	.....
Embaling .....	108	2	110	76	4	80	.....	30
Janitors and engineers .....	23	.....	23	25	.....	25	2	.....
Materials:								
Men's wear .....	.....	.....	.....	14	1	15	15	.....
Women's wear .....	.....	.....	.....	3	12	15	15	.....
Medical short course .....	89	4	93	97	7	104	11	.....
Mens' and boys' clothing .....	14	1	15	.....	.....	.....	.....	15
Post dental convention .....	.....	.....	.....	49	.....	49	49	.....
Silks .....	6	30	36	.....	.....	.....	.....	36
Textiles (Duluth) .....	.....	.....	.....	3	12	15	15	.....
Textiles (St. Paul) .....	.....	.....	.....	11	6	17	17	.....
Forestry .....	.....	.....	.....	21	.....	21	21	.....
Grand totals short courses .....	334	37	371	308	42	350	.....	21
Less duplicates .....	.....	.....	.....	3	.....	3	3	.....
Net totals short courses .....	334	37	371	305	42	347	.....	24
CORRESPONDENCE STUDY .....	1,115	1,348	2,463	1,098	1,383	2,481	18	.....
Grand totals extension .....	4,535	4,649	9,184	4,945	4,866	9,811	627	.....
Less duplicates .....	70	85	155	87	84	171	16	.....
Net totals extension .....	4,465	4,564	9,029	4,858	4,782	9,640	611	.....

TABLE V. SUMMARY, 1934-36

DIVISION	YEAR 1934-35			YEAR 1935-36			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
Collegiate students .....	9,663	6,762	16,425	10,676	7,632	18,308	1,883	.....
Subcollegiate students .....	1,725	1,304	3,029	2,251	2,021	4,272	1,243	.....
Totals .....	11,388	8,066	19,454	12,927	9,653	22,580	3,126	.....
Less duplicates .....	2	3	5	11	9	20	15	.....
Net totals .....	11,386	8,063	19,449	12,916	9,644	22,560	3,111	.....
Extension students .....	4,465	4,564	9,029	4,858	4,782	9,640	611	.....
Grand totals .....	15,851	12,627	28,478	17,774	14,426	32,200	3,722	.....
Less duplicates .....	726	866	1,592	801	853	1,654	62	.....
Net grand totals .....	15,125	11,761	26,886	16,973	13,573	30,546	3,660	.....

TABLE VI. COMPARATIVE REGISTRATION FIGURES, 1934-36

COLLEGE OR SCHOOL	YEAR 1934-35			YEAR 1935-36			GAIN		LOSS	
	M	W	T	M	W	T	M	W	M	W
General College .....	781	435	1,216	776	458	1,234	.....	23	5	.....
University College .....	34	33	67	22	43	65	.....	10	12	.....
Science, Literature, and the Arts .....	2,706	2,157	4,863	3,075	2,414	5,489	369	257	.....	.....
Engineering and Architecture .....	1,090	12	1,102	1,136	14	1,150	46	2	.....	.....
Agriculture (including schools of agriculture and short courses) .....	2,118	1,562	3,680	2,929	2,331	5,260	811	769	.....	.....
Law .....	306	19	325	315	19	334	9	.....	.....	.....
Medicine (including Nursing and Medical Technicians) .....	660	732	1,392	646	706	1,352	.....	.....	14	26
Dentistry (including Dental Hygienists) .....	279	67	346	294	84	378	15	17	.....	.....
Mines and Metallurgy .....	215	.....	215	239	.....	239	24	.....	.....	.....
Pharmacy .....	141	21	162	143	17	160	2	.....	.....	4
Chemistry .....	402	9	411	438	14	452	36	5	.....	.....
Education (including University High School) .....	693	1,315	2,008	672	1,423	2,095	.....	108	21	.....
Business Administration .....	420	105	525	447	113	560	27	8	.....	.....
Graduate .....	1,141	474	1,615	1,281	525	1,806	140	51	.....	.....
Summer Session (net) .....	1,907	2,180	4,087	2,251	2,576	4,827	344	396	.....	.....
Totals .....	12,893	9,121	22,014	14,664	10,737	25,401	1,771	1,616	.....	.....
Less duplicates .....	1,507	1,058	2,565	1,748	1,093	2,841	241	35	.....	.....
Net totals .....	11,386	8,063	19,449	12,916	9,644	22,560	1,530	1,581	.....	.....
Extension:										
General Extension .....	3,086	3,264	6,350	3,542	3,441	6,983	456	177	.....	.....
Short courses .....	334	37	371	305	42	347	.....	5	29	.....
Correspondence study .....	1,115	1,348	2,463	1,098	1,383	2,481	.....	35	17	.....
Totals .....	4,535	4,649	9,184	4,945	4,866	9,811	410	217	.....	.....
Less duplicates .....	70	85	155	87	84	171	17	.....	.....	1
Net totals .....	4,465	4,564	9,029	4,858	4,782	9,640	393	218	.....	.....
Summary:										
Totals, resident students .....	11,386	8,063	19,449	12,916	9,644	22,560	1,530	1,581	.....	.....
Totals, extension students .....	4,465	4,564	9,029	4,858	4,782	9,640	393	218	.....	.....
Grand totals .....	15,851	12,627	28,478	17,774	14,426	32,200	1,923	1,799	.....	.....
Less duplicates .....	726	866	1,592	801	853	1,654	75	.....	.....	13
Net grand totals .....	15,125	11,761	26,886	16,973	13,573	30,546	1,848	1,812	.....	.....

TABLE VIIA. DEGREES CONFERRED, 1934-36

COLLEGE AND DEGREE	YEAR 1934-35			YEAR 1935-36		
	Men	Women	Total	Men	Women	Total
<b>SCIENCE, LITERATURE, AND THE ARTS:</b>						
B.A. <i>summa cum laude</i> .....	6	2	8	4	1	5
B.A. <i>magna cum laude</i> .....	10	8	18	11	4	15
B.A. <i>cum laude</i> .....	20	16	36	11	9	20
B.S. <i>magna cum laude</i> .....	.....	1	1	.....	3	3
B.S. <i>cum laude</i> .....	1	4	5	.....	13	13
B.A. ....	92	61*	153	107	94	201
B.S. ....	3	48	51	7	72	79
<b>ENGINEERING AND ARCHITECTURE:</b>						
Bachelor of aeronautical engineering with high distinction .....	1	.....	1	3	.....	3
Bachelor of aeronautical engineering with distinction .....	1	.....	1	4	.....	4
Bachelor of aeronautical engineering .....	26	.....	26	20	1	21
Bachelor of agricultural engineering .....	8	.....	8	5	.....	5
Bachelor of architectural engineering with distinction .....	.....	.....	.....	1	.....	1
Bachelor of architectural engineering .....	9	.....	9	5	.....	5
Bachelor of civil engineering with high distinction .....	1	.....	1	.....	.....	.....
Bachelor of civil engineering with dis- tinction .....	2	.....	2	3	.....	3
Bachelor of civil engineering .....	44	.....	44	36	.....	36
Bachelor of electrical engineering with high distinction .....	4	.....	4	3	.....	3
Bachelor of electrical engineering with distinction .....	9	.....	9	2	.....	2
Bachelor of electrical engineering .....	48	.....	48	36	.....	36
Bachelor of mechanical engineering with high distinction .....	1	.....	1	1	.....	1
Bachelor of mechanical engineering with distinction .....	5	.....	5	7	.....	7
Bachelor of mechanical engineering .....	25	.....	25	38	.....	38
Bachelor of architecture with distinc- tion .....	2	.....	2	1	.....	1
Bachelor of architecture .....	14	.....	14	14	1	15
Bachelor of interior architecture .....	1	3	4	1	2	3
<b>AGRICULTURE:</b>						
B.S. with high distinction (agricul- ture) .....	.....	.....	.....	1	.....	1
B.S. with distinction (agriculture) .....	2	.....	2	4	.....	4
B.S. (agriculture) .....	15	.....	15	16	.....	16
B.S. with distinction (agricultural science) .....	2	.....	2	1	1	2
B.S. (agricultural science) .....	7	.....	7	8	.....	8
B.S. with distinction (forestry) .....	2	.....	2	2	.....	2
B.S. (forestry) .....	39	.....	39	33	.....	33
B.S. with high distinction (home economics) .....	.....	2	2	.....	1	1
B.S. with distinction (home economics) .....	.....	4	4	.....	7	7
B.S. (home economics) .....	.....	43	43	.....	41	41
<b>AGRICULTURE AND EDUCATION:</b>						
B.S. with distinction (agricultural education) .....	3	.....	3	1	.....	1
B.S. (agricultural education) .....	5	.....	5	3	.....	3

\* B.A. conferred September 1, 1934 as of June 19, 1933.

TABLE VIIA—Continued

COLLEGE AND DEGREE	YEAR 1934-35			YEAR 1935-36		
	Men	Women	Total	Men	Women	Total
B.S. with high distinction (home economics)	.....	1	1	.....	3	3
B.S. with distinction (home economics)	.....	2	2	.....	2	2
B.S. (home economics)	.....	21	21	.....	17	17
AGRICULTURE AND BUSINESS ADMINISTRATION:						
Bachelor of business administration in agriculture	.....	.....	.....	1	.....	1
LAW:						
LL.B.	61	3	64	59	3	62
B.S. in law	15	2	17	19	.....	19
MEDICINE:						
M.D. with distinction	2	.....	2	1	.....	1
M.D.	115†	7	122	119	5	124
M.B. with distinction	1	.....	1	.....	.....	.....
M.B.	101	5	106	132	4	136
B.S. <i>cum laude</i>	.....	3	3	.....	3	3
B.S. with distinction	2	.....	2	1	1	2
B.S.	58	39	97	87	37	124
Graduate in nursing	.....	103	103	.....	66	66
DENTISTRY:						
D.D.S.	73	1	74	74	1	75
Graduate dental hygienist	.....	17*	17	.....	18	18
MINES AND METALLURGY:						
E.M.	12	.....	12	11	.....	11
E.M. in geology	3	.....	3	.....	.....	.....
E.M. in petroleum	2	.....	2	2	.....	2
Metallurgical engineer	8	.....	8	9	.....	9
PHARMACY:						
B.S. in pharmacy	36	5	41	22	4	26
CHEMISTRY:						
Bachelor of chemistry with high distinction	3	.....	3	1	.....	1
Bachelor of chemistry with distinction	2	.....	2	1	1	2
Bachelor of chemistry	23	1	24	15	.....	15
Bachelor of chemical engineering with high distinction	1	.....	1	3	.....	3
Bachelor of chemical engineering with distinction	7	.....	7	7	.....	7
Bachelor of chemical engineering	28	.....	28	40	.....	40
EDUCATION:						
B.S. with high distinction	1	13	14	1	11	12
B.S. with distinction	9	39	48	14	49	63
B.S.	68	215	283	92	263	355
BUSINESS ADMINISTRATION:						
Bachelor of business administration with distinction	3	1	4	5	1	6
Bachelor of business administration	97	24	121	123	29	152
UNIVERSITY COLLEGE:						
B.A. <i>summa cum laude</i>	.....	.....	.....	.....	.....	.....
B.A. <i>magna cum laude</i>	.....	1	1	.....	.....	.....
B.A. <i>cum laude</i>	1	2	3	2	3	5
B.A.	10	12	22	6	7	13
B.S. <i>magna cum laude</i>	1	.....	1	.....	.....	.....
B.S. <i>cum laude</i>	2	.....	2	.....	.....	.....
B.S.	3	2	5	.....	2	2

\* G.D.H. degree conferred July 28, 1934 as of June 18, 1934.

† M.D. conferred December 20, 1934 as of June 18, 1934.

TABLE VIIA—Continued

COLLEGE AND DEGREE	YEAR 1934-35			YEAR 1935-36		
	Men	Women	Total	Men	Women	Total
<b>GENERAL COLLEGE:</b>						
A.A. ....	35	24	59	57	43	100
<b>GRADUATE:</b>						
M.A. ....	69	39	108	83	46	129
M.S. ....	37	5	42	47	10	57
M.S. in aeronautical engineering .....	1	.....	1	1	.....	1
M.S. in agricultural engineering .....	.....	.....	.....	.....	.....	.....
M.S. in architecture .....	.....	.....	.....	.....	.....	.....
M.S. in chemical engineering .....	4	.....	4	6	.....	6
M.S. in civil engineering .....	2	.....	2	4	.....	4
M.S. in electrical engineering .....	4	.....	4	1	.....	1
M.S. in mechanical engineering .....	5	.....	5	2	.....	2
M.S. in psychometrics .....	.....	2	2	.....	1	1
Agricultural engineer .....	.....	.....	.....	.....	.....	.....
Civil engineer .....	1	.....	1	1	.....	1
Electrical engineer .....	1	.....	1	1	.....	1
M.S. in anesthesia .....	.....	.....	.....	1	.....	1
M.S. in dermatology and syphilology .....	.....	.....	.....	1	.....	1
M.S. in medicine .....	2	.....	2	2	1	3
M.S. in neurology .....	1	.....	1	.....	.....	.....
M.S. in obstetrics and gynecology .....	.....	.....	.....	.....	.....	.....
M.S. in ophthalmology .....	1	.....	1	.....	.....	.....
M.S. in otology .....	.....	.....	.....	.....	.....	.....
M.S. in pathology .....	.....	1	1	5	.....	5
M.S. in pediatrics .....	.....	.....	.....	.....	.....	.....
M.S. in proctology .....	1	.....	1	.....	.....	.....
M.S. in radiology .....	.....	.....	.....	1	.....	1
M.S. in surgery .....	12	.....	12	11	.....	11
M.S. in neurosurgery .....	.....	.....	.....	.....	.....	.....
M.S. in orthopedic surgery .....	.....	.....	.....	1	.....	1
M.S. in otolaryngology and rhinology ..	.....	.....	.....	1	.....	1
M.S. in urology .....	1	.....	1	5	.....	5
Ph.D. ....	63	13	76	68	10	78
Ph.D. in dermatology and syphilology .....	.....	.....	.....	.....	.....	.....
Ph.D. in medicine .....	3	.....	3	.....	.....	.....
Ph.D. in obstetrics and gynecology .....	.....	.....	.....	1	.....	1
Ph.D. in pediatrics .....	.....	.....	.....	.....	.....	.....
Ph.D. in surgery .....	2	.....	2	1	.....	1
Ph.D. in urology .....	.....	.....	.....	.....	.....	.....
Totals .....	1,401	795	2,196	1,537	891	2,428

TABLE VIIB. CERTIFICATES CONFERRED, 1934-36

SCHOOL OR DIVISION	YEAR 1934-35			YEAR 1935-36		
	Men	Women	Total	Men	Women	Total
Central School of Agriculture .....	45	18	63	48	23	71
Embalming .....	85	1	86	66	3	69
Extension .....	7	4	11	7	1	8
North Central School of Agriculture .....	13	.....	13	22	.....	22
Northwest School of Agriculture .....	45	12	57	61	38	99
Public health nursing .....	.....	18	18	.....	22	22
Social work .....	.....	9	9	.....	15	15
University High School .....	41	42	83	37	31	68
West Central School of Agriculture .....	31	12	43	28	18	46
Totals .....	267	116	383	269	151	420

TABLE VIII. SUMMARY OF SOURCE OF ENROLMENT FROM HIGH SCHOOLS, 1934-35

	General Col.	Univ. Col.	S., L., and A.	Eng. and Arch.	Agri- cul- ture	Law	Medi- cine	Nurs- ing	Den- tistry	Dental Hygien- ists	Mines and Met.	Phar- macy	Chem- istry	Educa- tion	Busi- ness Adm.	Totals
Minneapolis public schools .....	195	.....	629	67	72	.....	.....	14	.....	9	25	5	44	48	.....	1,108
St. Paul public schools .....	67	.....	183	26	36	.....	.....	5	.....	1	17	1	8	11	.....	355
Other Minnesota high schools .....	122	.....	387	62	96	.....	.....	35	.....	7	33	9	17	38	.....	806
Minnesota private schools .....	33	.....	108	14	33	.....	.....	1	.....	2	2	.....	2	4	.....	199
Totals from Minnesota .....	417	.....	1,307	169	237	.....	.....	55	.....	19	77	15	71	101	.....	2,468
Other states .....	91	.....	167	22	34	.....	.....	25	.....	6	15	2	11	13	.....	386
Foreign countries .....	1	.....	3	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	5
Grand totals .....	509	.....	1,477	191	271	.....	.....	81	.....	25	92	17	82	114	.....	2,859
Entered by examination .....	7	.....	61	1	6	.....	.....	5	.....	.....	4	.....	.....	3	.....	87
Entered by State Board exam- ination .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Unclassed .....	3	.....	137	1	23	4	1	1	3	.....	1	.....	1	68	6	249

TABLE VIII. SUMMARY OF SOURCE OF ENROLMENT FROM HIGH SCHOOLS, 1935-36

	General Col.	Univ. Col.	S., L., and A.	Eng. and Arch.	Agri- cul- ture	Law	Medi- cine	Nurs- ing	Den- tistry	Dental Hygien- ists	Mines and Met.	Phar- macy	Chem- istry	Educa- tion	Busi- ness Adm.	Totals
Minneapolis public schools .....	216	.....	775	111	108	.....	.....	7	.....	5	25	3	50	40	.....	1,340
St. Paul public schools .....	58	.....	232	26	48	.....	.....	2	.....	2	14	1	15	11	.....	409
Other Minnesota high schools .....	121	.....	506	60	172	.....	.....	22	.....	10	30	6	23	43	.....	993
Minnesota private schools .....	30	.....	98	13	23	.....	.....	2	.....	2	2	1	2	2	.....	175
Totals from Minnesota .....	425	.....	1,611	210	351	.....	.....	33	.....	19	71	11	90	96	.....	2,917
Other states .....	67	.....	222	29	49	.....	.....	20	.....	3	5	.....	9	17	.....	421
Foreign countries .....	1	.....	9	2	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	14
Grand totals .....	493	.....	1,842	241	400	.....	.....	54	.....	22	76	11	99	114	.....	3,352
Entered by examination .....	9	3	58	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	75
Entered by Cambridge exam- ination .....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Unclassed .....	1	.....	82	1	28	.....	.....	4	.....	.....	.....	.....	.....	84	.....	200

TABLE IXA. SUMMARY OF STUDENTS ADMITTED WITH ADVANCED STANDING, 1934-35

	General Col.	Univ. Col.	S., L., and A.	Eng. and Arch.	Agri- cul- ture	Law	Medi- cine	Med. Tech- nicians	Nurs- ing	Den- tistry	Dental Hygien- ists	Mines and Met.	Phar- macy	Chem- istry	Educa- tion	Busi- ness Adm.	Grad- uate	Total
Colleges in Minnesota .....			289	46	41	33	26	3	4	18	1		9	24	136	43	2	675
Colleges in other states .....	1	1	253	36	32	16	16	1	3	32	1	4	5	15	78	19	4	517
Colleges in foreign countries .....			2	1	1					18					1			23
Schools of nursing .....									40						57			97
Grand totals .....	1	1	544	83	74	49	42	4	47	68	2	4	14	39	272	62	6	1,312

TABLE IXB. SUMMARY OF STUDENTS ADMITTED WITH ADVANCED STANDING, 1935-36

	General Col.	Univ. Col.	S., L., and A.	Eng. and Arch.	Agri- cul- ture	Law	Medi- cine	Med. Tech- nicians	Nurs- ing	Den- tistry	Dental Hygien- ists	Mines and Met.	Phar- macy	Chem- istry	Educa- tion	Busi- ness Adm.	Grad- uate	Total
Colleges in Minnesota .....			245	50	98	30	39	7	7	14		3	12	24	102	43		674
Colleges in other states .....		3	270	30	61	15	13	3	8	23	2		2	8	60	20		518
Colleges in foreign countries .....			10	1	2		1	1		7			1	1	1			25
Schools of nursing .....									36						60			96
Grand totals .....		3	525	81	161	45	53	11	51	44	2	3	15	33	223	63		1,313

TABLE XA. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF UNIVERSITY STUDENTS OF COLLEGIATE GRADE  
(OTHER THAN SUMMER SESSION) 1934-35

	General Col.	Univ. Col.	S., L., and A.	Eng. and Arch.	Agri- cul- ture	Law	Medi- cine	Med. Tech- nicians	Nurs- ing	Den- tistry	Dental Hyg.	Mines and Met.	Phar- macy	Chem- istry	Edu- cation	Busi- ness Adm.	Grad- uate	Dupli- cates	Total
Hennepin County .....	592	44	2,250	449	356	121	210	30	272	51	35	98	63	182	655	193	532	362	5,771
Ramsey County .....	254	7	878	210	170	58	111	12	33	31	8	48	28	65	175	81	222	124	2,267
Other Minnesota coun- ties .....	239	8	1,130	311	430	112	270	18	175	97	15	52	55	118	537	172	308	259	3,788
Totals .....	1,085	59	4,258	970	956	291	591	60	480	179	58	198	146	365	1,367	446	1,062	745	11,826
Other states .....	129	8	581	125	84	34	92	9	151	73	6	15	16	43	240	79	468	127	2,026
Foreign countries .....	2	.....	24	7	3	.....	6	.....	3	30	.....	2	.....	3	9	.....	85	4	170
Grand totals .....	1,216	67	4,863	1,102	1,043	325	689	69	634	282	64	215	162	411	1,616	525	1,615	876	14,022

TABLE XB. SUMMARY OF GEOGRAPHICAL DISTRIBUTION OF UNIVERSITY STUDENTS OF COLLEGIATE GRADE  
(OTHER THAN SUMMER SESSION) 1935-36

	General Col.	Univ. Col.	S., L., and A.	Eng. and Arch.	Agri- cul- ture	Law	Medi- cine	Med. Tech- nicians	Nurs- ing	Den- tistry	Dental Hyg.	Mines and Met.	Phar- macy	Chem- istry	Edu- cation	Busi- ness Adm.	Grad- uate	Dupli- cates	Total
Hennepin County .....	609	40	2,377	454	414	129	198	31	311	53	36	94	55	214	642	206	562	325	6,100
Ramsey County .....	225	11	967	223	232	62	123	11	24	23	10	50	25	74	212	88	244	150	2,454
Other Minnesota coun- ties .....	266	8	1,432	328	594	107	272	31	138	103	28	79	67	118	550	184	376	334	4,347
Totals .....	1,100	59	4,776	1,005	1,240	298	593	73	473	179	74	223	147	406	1,404	478	1,182	809	12,901
Other states .....	131	5	678	133	146	36	75	11	120	85	8	14	13	44	282	80	516	152	2,225
Foreign countries .....	3	1	35	12	4	.....	3	1	3	32	.....	2	.....	2	7	2	108	13	202
Grand totals .....	1,234	65	5,489	1,150	1,390	334	671	85	596	296	82	239	160	452	1,693	560	1,806	974	15,328

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, 1936.

The University's complete financial report, *Report of the Comptroller*, is published separately and is available on request.

## Sources of Income, July 1, 1935 to June 30, 1936

## From the State

<b>The legislative maintenance appropriation</b> .....	\$ 3,100,000.00
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.	
<b>The 23/100 mill tax</b> .....	293,954.49
The standing direct property tax for the general support of the University.	
<b>The state's share of the cost of indigent patients at the University of Minnesota Hospitals</b> .....	185,000.00
<b>The special projects administered and carried out by the University for the general benefit of the people of the state</b> .....	234,726.10
These special projects include Agricultural Extension, county agents, Live Stock Sanitary Board, dairy manufacturing, and research in fields of manganiferous ores, direct process beneficiation of low grade ores, soils, medicine, crop breeding and testing.	
<b>The physical plant extensions</b> .....	132,714.08
Building Fund tax levy, \$45,714.08; Psychopathic Hospital, building and equipment, \$87,000.00.	

## From the Federal Government

<b>Instruction, research, and extension</b> .....	641,519.21
\$518,181.95 of this amount was used in agriculture, \$9,500.00 in engineering; \$33,033.47 in education; \$9,500.00 in the College of Science, Literature, and the Arts; \$1,418.19 in the Medical School.	
<b>Building Construction—Public Works Administration Grant</b> .....	155,790.00

## From the Permanent University Fund .....

272,716.80  
The principal of the fund, amounting to \$6,875,996.15 on June 30, 1936, 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 .....

84,351.60  
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)	1,209,588.40
The counties' share of the cost of indigent patients at the University of Minnesota Hospitals .....	196,339.34
The University of Minnesota Hospitals receipts .....	193,314.62
The Dental Infirmary receipts of the School of Dentistry .....	54,634.94
Other miscellaneous departmental income such as sales of livestock and agricultural products .....	348,860.09
Sale of Old Dispensary property .....	1,100.00
Sale of gravel .....	1,862.25

## From Self-Supporting Service Enterprises and Revolving Funds .....

1,784,945.21  
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 .....

581,905.44  
The trust funds include gifts and donations for student loan funds, scholarships, prizes, and permanent endowments for teaching, research, and care of the sick.

## From Intercollegiate Athletics .....

292,008.11  
All intercollegiate athletic receipts are credited to this fund.

<b>Total Receipts from All Sources</b> .....	\$ 9,765,330.68
Decrease in obligations and allotted balances .....	88,637.04
Free balance July 1, 1935 .....	16,631.88
	<hr/>
	\$ 9,870,599.60

## Expenditures, July 1, 1935 to June 30, 1936

**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 ..... \$ 171,707.73

**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 ..... 553,869.37

**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, \$4,292,232.87; federal funds, \$571,633.61; special state appropriations, \$221,030.44) ..... 5,084,896.92

**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. (General fund, \$802,534.76; special state appropriations, \$6,000.00) ..... 808,534.76

**The Plant Extension Expenditures**

Expenditures for building additions and land. (General fund, \$184,583.34; special state appropriations, \$44,281.38; service enterprises, \$309,728.07; trust funds, \$10.00) ..... 538,602.79

**The Redemption of Certificates of Indebtedness**

University Building Fund certificates, \$150,000.00; Athletic Building certificates, \$40,000.00; Pioneer Hall Building certificates, \$50,000.00 ..... 240,000.00

**The Self-Supporting Service Enterprises and Revolving Funds**

The operating and capital expenditures for dormitories and dining halls, cafeterias, printing department, and other self-supporting enterprises and revolving funds ..... 1,626,043.84

**The Trust Fund Expenditures**

Scholarships, fellowships, prizes and trust fund expenditures for teaching and research, care of the sick, and other trust purposes ... 496,653.86

**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 ..... 191,600.78

**Expenditures for All Purposes** ..... \$ 9,711,910.05

Transfer to student loans and endowments ..... 84,360.80  
 Transfer of depreciation reserve (Minnesota Hospital and Home for Crippled Children) ..... 45,000.00  
 Transfer to stores reserve ..... 25,000.00  
 Free balance June 30, 1936 ..... 4,328.75

\$ 9,870,599.60

## A Few Interesting Facts About the University

## Students

	1931-32	1932-33	1933-34	1934-35	1935-36
Collegiate .....	17,756	16,214	15,141	16,425	18,308
Noncollegiate .....	3,123	4,150	3,935	3,029	4,272
Extension .....	9,814	8,022	7,275	9,029	9,811

## Staff—1935-36

Administrative, teaching, and research staff* .....	1,444
Clerical and service staff* .....	1,180

## Colleges

	Departments
College of Science, Literature, and the Arts .....	26
College of Engineering and Architecture .....	10
Department of Agriculture .....	31
Medical School .....	13
School of Chemistry .....	1
School of Mines and Metallurgy .....	3
School of Dentistry .....	1
Law School .....	1
College of Pharmacy .....	1
College of Education .....	9
Graduate School .....	10
School of Business Administration .....	1
Library Instruction .....	1
University College .....	1
General College .....	1

## Land—June 30, 1936

	Acres	Value
Main campus—Minneapolis .....	134.27	\$3,903,649
Farm campus—St. Paul .....	640.85	617,545
Crookston .....	550.89	137,368
Grand Rapids .....	454.60	34,095
Zumbra Heights .....	229.89	41,271
Morris .....	537.25	50,024
Waseca .....	246.02	30,752
Duluth .....	252.74	41,224
Cloquet .....	2,902.09	60,632

## Buildings—June 30, 1936

	Major	Minor	Value
Main campus .....	46	15	\$15,508,805
Farm campus .....	28	53	2,194,649
Crookston .....	14	26	592,399
Grand Rapids .....	3	21	213,214
Zumbra Heights .....	5	8	53,158
Morris .....	15	15	772,537
Waseca .....	6	15	40,144
Duluth .....	2	20	65,876
Cloquet .....	6	25	41,252
Itasca .....	2	19	21,740

\* Reduced to a full-time basis.

**Equipment—June 30, 1936**

	Total	Livestock	Books, Museums, and Collections	Other
Main campus .....	\$6,034,313	.....	\$3,142,357	\$2,891,956
Department of Agriculture .....	1,074,271	\$91,396	281,302	701,573
Research .....	27,467	.....	.....	27,467
Service enterprises .....	672,939	.....	.....	672,939
	<hr/>	<hr/>	<hr/>	<hr/>
	\$7,808,990	\$91,396	\$3,423,659	\$4,293,935

**Endowment—June 30, 1936**

	Value
For student aid—scholarships and prizes .....	\$ 251,050.31
For student aid—loans .....	171,808.15
Educational purposes .....	3,465,530.22
Noneducational purposes .....	2,035,550.37
Endowment—subject to annuity .....	392,645.37
For general purposes—Permanent University Fund .....	6,875,996.15
	<hr/>
	\$13,192,580.57
<b>Student Loan Funds—Cash available</b> .....	97,811.09
Notes receivable .....	237,216.27
	<hr/>
<b>Total</b> .....	<b>\$13,527,607.93</b>

Respectfully submitted,

W. T. MIDDLEBROOK, *Comptroller*

COLLEGE REPORTS

## COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

*To the President of the University:*

SIR: I submit my report as dean of the College of Science, Literature, and the Arts for the biennium 1934-36. As this is the last report that I shall make before retirement in June, 1937, I wish to give brief attention to some of the developments that have taken place during my term of office beginning with the year 1914-15.

*Purpose of the college.*—As part of one of the primary divisions of the government of the state it is the purpose of this college to plan and carry on those liberal educational activities which offer to young men and women the best means of preparing themselves to bring to the people of the state the services that can be rendered by persons of high intellectual attainments, social understanding, and personal integrity. The facilities of the college are intended not for the direct education of each one of the two and a half million people but for the training of those who will perform for the benefit of their fellow citizens certain functions in society which demand unusual abilities and high attainments.

In view of its responsibility to the public the college has maintained certain standards in its work and certain requirements for graduation. Since the public welfare demands many kinds of services and since the youth of the state present an endless variety of native qualities, abilities, and interests, it is the duty of the college, in its proper field and in proportion to the resources furnished it, to offer the means of intellectual and moral development to capable students, to help each one to find the field of work best suited to his native powers, and to guide him in his preparation for that work. It is the further duty of the college to assure the public that each student before graduation has given evidence of individual character and personal worth, of serious intellectual effort, of an understanding of his social responsibilities, and of actual attainments which will enable him to render services to the public welfare commensurate with the facilities and privileges furnished with public approval and largely at public expense.

With regard to the intellectual elements on which the college bases this assurance it has (a) prescribed reasonable achievements in certain types of studies to ensure breadth of cultural foundation and the command of the most necessary instruments for intensive study; (b) required progress by the student from more elementary to more advanced or intensive studies, as a means of intellectual growth; (c) required the individual student to plan a coherent course of studies adapted to his declared objective; and (d) specified certain degrees of attainment in his studies as an evidence that the graduate has the capacity for intellectual leadership.

*The college requirements.*—It will be of interest to point out briefly some developments in the requirements made by the faculty. Quotations are taken from the faculty minutes.

In the first decade of the century and earlier, academic interest was centered about the contribution to the educated man made by each academic subject. Departments vied with one another to bring their wares to the attention of students and each sought to frame faculty regulations so that all students would be sure to get the unique benefits offered by its subject. A revision of the college curriculum carried through in the year 1912-13 marked the culmination of this mode of procedure. The curriculum committee held many hearings of departmental representatives and after prolonged discussions submitted to the faculty a report which

attempted to specify the college requirements in great detail. After discussion and adoption by the faculty this curriculum statement proved to contain many clauses that were unnecessary, inconsistent, or unreasonably burdensome. During the following years many faculty actions were necessary before this curriculum was finally simplified and clarified by another revision in 1919-20.

In the meantime the faculty had voted in 1914-15 a course leading to the degree B.A. with honors. This course required more than ordinary specialization in a major subject and was characterized by an advancing sequence in the student's work. Following the adoption of a uniform system of grading throughout the University the faculty of this college translated its regulation covering standards of work into a system of honor points related to the letters of the new grading system. The standard adopted by the faculty before 1907 recognized differences in ability with reference to various subjects and it allowed the student to take advantage of his higher ability in some subjects to offset his lower ability in other subjects. It allowed the student to count toward graduation mere passing grades in some subjects only if he secured higher grades in some other subjects. The rule was, on a marking scale of *excellent*, *good*, and *pass*, the student must have grades of *good* in at least half of his work. In 1915-16 this rule was translated into the scheme of honor points which has since attached to the letter grades.

In 1917 the faculty formally set up the distinction between the Junior College and the Senior College, providing that Senior College courses shall require advanced and intensive study and setting certain requirements in amount and quality of work for promotion to the Senior College. In 1921 the plan for honor graduation was revised, provision being made for a comprehensive examination for candidates for B.A. *magna cum laude* and both an examination and a thesis for B.A. *summa cum laude*. In the same year the plan of quality credits was introduced. In the year 1912-13 the Curriculum Committee had recommended for favorable consideration by the Advisory Committee "the question of credit for quality as well as quantity of work."

From the year 1921 on, the faculty was interested in providing adequate facilities for students of high ability; for example, by sectioning classes on the basis of achievement, by offering courses especially intended for the more capable students, and by making special studies of the needs of such students. In 1923 it was announced that "the Senior College is concerned primarily with the advanced instruction leading to the Bachelor's degrees"; while the Junior College "offers instruction in the fundamental branches which are required in preparation for the courses leading to the degrees B.A. and B.S., and for the professional schools. It is expected also that its courses of study will offer preparation for various vocations or will provide a general education for those who do not complete a longer course."

In 1923 the great increase in students following the war directed attention to the fact that each year for four years the college had admitted twice as many freshmen per unit of the population of the state as in 1910, and that only about one half of the entrants proved themselves fitted for scholarship or professional service. It was suggested that the faculty provide a complete personnel service for freshmen, including investigation and ratings of abilities and educational advising; that there be created courses of study to train for the common life of our communities; and that about one third of the freshmen having the lowest aptitudes for the work demanded by higher education be assigned to the new courses, with continued guidance and readjustment and transfer of students in order to give each

student opportunity to cultivate his native talents. It was suggested that a certificate be given at the completion of two years of this work. It was expected that the differentiation of instruction in relation to fitness of students would make more fruitful the efforts of the faculty on behalf of the superior students.

In May, 1925, the faculty voted "to request the University to offer the degree of 'associate in arts' for the completion of two years of work of collegiate grade, with the understanding that the detailed requirements and the regulations governing students are to be drawn up by the faculty of the College of Science, Literature, and the Arts." This did not receive approval.

In May, 1926, it was voted "that departments dealing with freshmen should develop and make use of placement tests or other devices which will enable them to classify their students as nearly as possible in accordance with their abilities and aptitudes"; and "that active efforts should be made . . . to discover during the freshman and sophomore years the special interests and aptitudes of students, to distinguish between those who will be attracted by the opportunities and satisfactions of intellectual achievement and those whose satisfaction is found in other objectives, and to find the means of guiding each student into the kind of work best suited to him."

In January, 1928, the faculty approved a program of educational guidance and curriculum adjustments which involved classification of freshmen based upon all available information about the personal qualities and the intellectual traits and ability of the individual student. Courses of study open to freshmen were divided into courses open to all and courses which require some evidence of student aptitude for college work. In order to correlate freshman guidance and the conduct of instruction, departments were "expected (a) to maintain standards in courses open to all equal to those in college freshman courses in general; (b) to take into account the proposed classification of students in connection with the sectioning of classes on the basis of ability wherever this is practiced; and (c) to call attention promptly to the cases of students who appear to be wrongly classified and to shift such students to classes better suited to them whenever that is feasible."

Provision was made also for the development of "curricula for those who are able to remain in college two years or less. . . . Such suggested curricula might include intermediate and relatively advanced courses suitable for those who do satisfactory work." Finally the plan included the "selection of the more capable students during freshman and sophomore years with a view to guiding them into advanced courses and independent study."

This plan was in full operation for four years until in 1932 the majority of the low aptitude students were directed into the General College. In January, 1931, the faculty voted to support the projects under way and to approve two additional steps:

a. The creation of an Examining Board in the faculty who shall have supervision of the planning and construction of general or comprehensive examinations; when requested, advise and aid instructors in the construction of examinations; and co-operate with faculties of professional schools in planning examinations for students preparing to enter those schools.

b. A reduction in the course work offered so that the faculty may give more time and energy to preparing examinations, advising students, supervising study, tutorial instruction, and other means of gaining the objectives of the college.

There was also recognition of service on special commissions such as those for examinations and counseling as part of the regular duties of faculty members, calling for an adjustment of the hours of class teaching.

The Faculty Minutes for May 9, October 3, and December 5, 1932, give detailed plans for the correlation of the work of this college with that of the General College in respect to admissions, advising freshmen, transfers to or from the General College, admission of General College students to individual courses in this college, and the determination of transfer credits on the same terms that apply to transfers from other institutions. The operation of these provisions became very difficult in part because the General College entered upon a policy of competition for students and prestige, and in part because of the violent objection to entering the General College on the part of many students who were unsuccessful in this college and were of the very type for whom the General College was originally designed.

*The curriculum.*—Between May, 1933, and March, 1934, several faculty meetings were devoted to a general discussion and revision of the curriculum. In May, 1936, the bulletin statement was further revised in the interest of simplicity and clearness and some specific changes in substance were introduced. The chief new features that appear in the curriculum of 1934-36 as compared with that of 1920 may be briefly summarized. First is a further sharpening and strengthening of the distinction between the Junior College and the Senior College. Second is the much greater emphasis on the progress the student is expected to make during his course from elementary to advanced and intensive studies. During residence in the Senior College the student must spend his time on Senior College studies, "except in so far as in the judgment of his Senior College adviser additional elementary studies will contribute to the intellectual development of the student." Third is the definite allocation of responsibility for planning the student's course. Since the period of "free electives" the college curriculum has always allowed ample opportunity for variation between the curricula of individual students. Now the duty is definitely laid on the student during his freshman and sophomore years to make preparation for his Senior College studies. Before entering the junior year he must submit a tentative but detailed plan of study which discloses the central purpose he wishes to attain during the Senior College period. He is then assigned to a Senior College adviser whose duty it is to discuss his plan with the student with respect to its coherence and the selection of the studies that will contribute most to his purpose. The plan approved by the adviser becomes the individual student's curriculum. Provision is made for the co-operation of student and adviser from the freshman year onward.

Fourth is the provision for two chief types of curriculum in the Senior College: one the traditional curriculum providing for concentration in major and minor subjects; the other providing for the grouping of studies with the greatest freedom in relation to the specific interest of the individual student. Thus the particular purpose of the student may lead him to cross department lines at will and to draw on courses in different subject-matters in a way that would appear bizarre to one who is accustomed only to the departmental manner of looking at education. Such a procedure is given meaning by the central purpose of the student and justified by the clearness with which the implications of that purpose are grasped and defined and by the criticism and eventual approval given by the adviser. This new type of curriculum may work out to great concentration determined by a very specific interest in the case of one student or to great breadth of cultivation in the case of another student.

Fifth is a shifting of emphasis with regard to the quality of work, as expressed in marks, that is expected of the student at different periods of his course. The requirement of an average of C in the whole work of the Junior College is relaxed

in the case of a student who shows improvement during the freshman and sophomore years. Such a student, if he has secured an average of C in his sophomore year may be admitted to the Senior College by action of the Students' Work Committee. On the other hand, the average standing of C in all the work of the Senior College which has not been exacted heretofore is now to be required.

In general it may be said that potentially the curriculum of the college is completely individual. No single study is required of all students alike. Certain amounts of study in representative groups or types of subjects are expected, subject to exceptions in peculiar circumstances. The extent to which the individual student may build his own curriculum is limited only by his imagination, resourcefulness, alertness, foresight, and the efforts that he makes toward realizing his ideals. It is the duty of the college of course to see that a further possible limitation arising from the lack of information, imagination, and adaptability on the part of advisers is avoided as far as possible through careful choice of advisers and through their experience.

We have moved in this direction in the belief that human society advances through the improvement of its individuals, and that the perfecting of the individual is a process of development of the powers and aptitudes that he has. In contrast to the authoritarian formalism of President Hutchins' idea of a university curriculum (*Yale Review*, summer, 1936) we have moved steadily toward the concept of a university as that combination of persons with arranged social conditions which offers to each individual the opportunity for the full development of the traits of personality and powers of performance which nature has given him.

*Growth and support.*—The number of students in the college has increased from 1,592 in 1913-14 to 5,489 in 1935-36. The number of the faculty has increased from 109 to 238. The population of the state has grown in the same time from about 2,175,000 to about 2,600,000. The students have multiplied by 3.44, the faculty by 2.18, and the state's population by 1.19.

The growth of the college (Table I) appears to be the expression of a consistent social tendency with two interruptions due to the Great War and the recent depression. The recession due to the war was not great but was followed by a striking upward surge in 1919-20. A very consistent growth continued for eleven following years. The business crash of 1929 seemed to slow the rate of growth for three years but by 1932-33 and 1933-34 the economic depression together with the creation of the General College produced a serious loss in numbers, amounting to 18 per cent. By 1935-36 the college has regained the position to which the growth curve of the decade of 1920 would have brought it, if there had been no interruption.

During this period several actions have been taken which have definitely subtracted from the number of registrations in this college. Since 1919-20 all candidates for teacher's certificates have been required to register for their junior and senior years in the College of Education. In the same year the Course in Business Administration was removed from this college and set up as an independent school. Since 1932-33 approximately 300 freshmen each year have been directed to the General College. The combined effect of these changes in university organization has been to divert student registrations from this college to the number of approximately 1,500 a year. In addition this college in 1929 transferred to the professional schools jurisdiction of those students who take a B.S. degree at the end of two years in those schools. The graduates transferred to other schools by all these actions probably number more than 400 a year.

TABLE I. THE GROWTH OF THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS

YEAR	1	2	3	4	5	6	7	8	9	10
	REGIS- TRATION	FAC- ULTY	AVERAGE STU- DENT CREDIT HOURS PER WEEK	STUDENT CREDIT HOURS PER FACULTY MEMBER	TOTAL ANNUAL BUDGET	COST PER STUDENT CREDIT HOUR	VALUE OF ANNUAL BUDGET DOLLAR	COR- RECTED ANNUAL BUDGET	COR- RECTED COST PER STUDENT CREDIT HOUR	COR- RECTED AVER- AGE PRO- FESSORS' SALARIES
1913-14	1,592	109	.....	.....	281,224	.....	.....	.....	.....	.....
1914-15	1,818	129	29,732	230	278,291	9.37	1.00	278,291	9.37	\$2,492
1915-16	2,349	132	35,172	266	273,805	.....	.....	.....	.....	.....
1916-17	2,481	149	37,613	252	329,808	.....	.....	.....	.....	.....
1917-18	2,325	134	35,250*	263	346,733	9.83	.....	.....	.....	.....
1918-19	2,148	142	32,928	232	364,257	11.06	.....	.....	.....	.....
1919-20	3,746	184	51,213*	278	454,104	8.86	.....	.....	.....	.....
1920-21	3,963	197	52,317*	271	565,025	10.81	.50	282,512	5.42	\$1,487
1921-22	3,908	194	53,059*	273	599,200	11.29	.....	.....	.....	.....
1922-23	3,905	199	52,661	265	604,641	11.48	.....	.....	.....	.....
1923-24	4,059	200	55,349	276	624,105	11.27	.....	.....	.....	.....
1924-25	4,258	202	57,601	285	654,745	11.36	.....	.....	.....	.....
1925-26	4,609	207	62,270	301	686,885	11.03	.545	374,352	6.01	\$1,989
1926-27	4,968	210	65,321	311	740,285	11.33	.....	.....	.....	.....
1927-28	5,026	216	64,902	300	787,605	12.13	.....	.....	.....	.....
1928-29	5,228	227	65,163	288	850,134	13.05	.572	486,377	7.46	\$2,217
1929-30	5,264	236	65,425	280	878,322	13.42	.....	.....	.....	.....
1930-31	5,279	246	66,674	271	872,738	13.09	.....	.....	.....	.....
1931-32	5,150	234	68,235	292	844,380	12.37	.....	.....	.....	.....
1932-33	4,454	231	64,378	279	839,180	13.03	.....	.....	.....	.....
1933-34	4,328	213	61,173	287	703,034	11.49	.....	.....	.....	.....
1934-35	4,863	236	69,772	296	708,580	10.15	.....	.....	.....	.....
1935-36	5,489	238	76,138	320	755,456	9.92	.613	463,095	6.10	\$2,329

\* Approximations based on fall quarter and comparisons with other years.

However, the number of registrations is not a true measure of the actual instruction given or of the growth in the body of teaching. These are indicated in Table I by Column 3, headed "average student credit hours per week." The volume of teaching has been determined by many factors including the following: the size and growth of those professional schools which require preparation in an arts college, the number of students in the Graduate School, the amount of liberal arts studies required by other university units as part of their professional curricula, the election of studies in other university units by students who are candidates for degrees in this college, the number of students in the General College taught by members of the liberal arts faculty. Most of these factors are not subject to any control by this college; on the contrary the college must adapt itself to these influences, often without any means of seeing in advance what changes will take place.

The students in the classes of this college fall into three general groups: (a) those who are looking toward a degree in this college, (b) those who are preparing to enter one of the professional schools, and (c) those who are registered in some professional school, the General College, or the Graduate School and are taking courses in this college. These groups may be regarded as roughly equal, the last being in fact somewhat the largest.

*The teaching load.*—In Table I the teaching load is expressed in terms of the average student credit hours of teaching per week. The student credit hour is

essentially a unit of measure of the *weekly* load of teaching. The weekly load changes from one semester or one quarter to another. When the weekly loads of the semesters or the quarters of each year are averaged the resulting figures are comparable from year to year. It is necessary to use the figures in this way in order to compare the years when the college operated on the semester plan with the years when the quarter plan has been followed. In previous reports and discussions the total teaching load for the year has been represented by the sum of the student credit hours for the two semesters or the three quarters. Thus the total teaching load for 1935-36 is 228,414 student credit hours, while the average teaching load for each week has been 76,138 student credit hours. These statements are necessary to explain the apparent high cost per student credit hour given in this table as compared with figures used in previous years.

An examination of the student credit hours in comparison with the annual budget (Table I, Column 5) gives the impression that the budget has kept pace with the teaching load. However, when the fluctuation in the purchasing power of the dollar\* is taken into account (Columns 7, 8, 9) it is seen that the real value of the budget has increased much less rapidly than the teaching load. The purchasing power of the faculty's salaries is much lower than it was in 1915. In terms of agricultural and industrial products the state is paying one third less for the instruction of each student than it did in 1914-15 (Column 9). In terms of rentals, food, clothing, and other things that faculty members have to buy, the average salaries of professors, associate professors, and assistant professors have decreased from \$2,492 in 1914-15 to \$2,329 in 1935-36 (Column 10). If full account is taken of the change in the relative numbers in the three professorial ranks the figure for 1935-36 would be corrected to \$2,378.

*The service function.*—Changes in university organization and in the interests of students have brought about a shift in the distribution of instruction among the colleges of the University. Up to the end of 1919-20 a little more than one half of the total instruction given by the University was given by the faculty of this college. Later, altho the students transferred to the College of Education and the General College continued to receive their instruction largely from the faculty of this college, an increasing number of students registered in this college have sought instruction in chemistry, bacteriology, physiology, home economics, and other subjects. Particularly the transfer of the Department of Economics to the School of Business Administration has drawn a large number of arts college students into those classes. The net result has been a decline in the proportion of total university instruction given by this college to 45 per cent in 1923-24 and to 42 per cent in 1935-36.

This has been a definitely favorable trend. The large size of this college and the enormously complex arrangements in the matters of curriculum and class schedules have taxed the strength and ingenuity of those charged with administration. This college has maintained the principle of service to the professional schools—in contrast to the practice in most other universities which insist that preprofessional students shall comply with the requirements of the college of liberal arts during the period when they are registered in that college—and the varied and detailed requests or prescriptions of the professional schools greatly augment

\* From the value of the dollar at four periods since 1915 given in the Table I am indebted to Dean R. A. Stevenson and Dr. R. L. Kozelka. Reference should be made also to the study of the cost of faculty living in 1932 made by Dr. Kozelka. It should be understood that the accuracy of the calculation of the value of the dollar is limited by several variable factors. The figures should be regarded as reasonable approximations.

the responsibilities and the administrative duties of this college. Moreover, the large college is at a disadvantage in presenting to the president and the board its needs in all the extent and variety resulting from its manifold relationships.

There has been a shift also in the relative numbers of elementary and advanced students. Juniors and seniors have been transferred to the College of Education and School of Business Administration, while a large number of freshmen and sophomores have been directed into the General College. In 1915-16 the freshmen and sophomores constituted 61 per cent of the college registration; in 1935-36 they made up 81 per cent. If the registrations in the College of Science, Literature, and the Arts, College of Education, School of Business Administration, and General College in 1935-36 be taken together, the freshmen and sophomores constitute 67 per cent. In all cases the unclassified students are left with the juniors and seniors. The foregoing represents the registration of students for administrative purposes. From the standpoint of the instruction given in the college classes to all students wherever they are registered, in 1935-36 the student credit hours of instruction given in courses intended for freshmen and sophomores made up 76 per cent of the total teaching load. The fact that at present the freshmen and sophomores receive 76 per cent of the total instruction while they make up 81 per cent of the registration is explained by the growth of the Graduate School and by the students registered in this college seeking instruction in other administrative units (chemistry, economics, etc.) as stated above.

*Faculty changes.*—Between 1914-15 and 1935-36 the proportion of the faculty in the three professorial ranks has been raised from 47.7 per cent to 58 per cent. Seventeen members of the faculty of all ranks have died while in active service, 4 have resigned on account of ill health, and 11 professors have terminated their regular teaching duties at the age for retirement. These retirements have shown a peculiar distribution: one in 1917, 5 between 1925 and 1930, and 5 from 1931 to 1935. Thirteen others will reach the retiring age in the next five years. The replacement of these retiring professors has presented a considerable problem. My experience with this has led me to the conclusion that when a faculty loses a professor at the retiring age usually his place should be filled by the appointment of two young men. Two men are usually needed to carry the increasing teaching load, and the replacement of old men by young men will tend to maintain a normal age distribution.

During the years 1914-15 to 1935-36, inclusive, 715 appointments have been made of the rank of instructor and higher. This does not include a large number of persons of all ranks who have given only a minor part of their time to university teaching: special lecturers, part-time lecturers and supervisors in social work, teachers of special musical instruments, and others. It does include 11 recently appointed whose service begin in September, 1936. Of these 715, 541 were appointed with the rank of instructor, 113 with the rank of assistant professor, 18 with the rank of associate professor, and 43 with the rank of professor. Of the 541 instructors, 116 will be in the faculty in 1936-37, 12 having reached the rank of professor, 12 that of associate professor, and 35 that of assistant professor, while 57 remain as instructors. Of the 113 assistant professors, 35 remain in the present faculty, 22 with the same rank, 7 as associate professors, and 6 as professors. Of the 18 associate professors, 4 remain in that rank and 7 are now professors. Of the 43 professors, 12 are still in this college and one has transferred to the College of Agriculture, Forestry, and Home Economics. The total number now remaining in the faculty of the University is 205 of whom 30 were appointed before 1914 and 175 since 1914. Our records, which are not at all complete, show 138

who are known to have gone to academic positions in other institutions. In practically all cases these persons have gone to positions with rank and salary higher than were in prospect for them here. A good many others have left teaching temporarily to complete their graduate studies. Others have gone into commercial or industrial fields for which their academic work has prepared them.

*Abilities and interests required in a faculty.*—The writer has had a personal experience of over twenty years during which research was the supreme goal and satisfaction, and a similar period of administration during which it has been his duty to make close observation of both teaching and research. He wishes now to express his carefully considered conviction regarding the place of these two functions in such an institution as the liberal arts college in a state university.

Teaching should be conceived in a broad sense to include formal instruction and evaluation of achievement by students, together with advising, personal influence, and stimulation of one's students to set up appropriate ideals and to pursue them with serious purpose. This combination of activities constitutes beyond all comparison the fundamental and essential function of the liberal college in a state university. Up to the present time the conditions surrounding this college have made teaching as here defined the primary duty to be expected of nearly all members of the faculty. It remains for the future to determine how many research professors without teaching duties, or with teaching as only a secondary interest, the college can incorporate in its faculty.

Research is one of several types of work to which the faculty member may properly devote part of his time. Other proper interests of the college teacher include the framing of legislation, organizing public administration, writing for the information of the public on social, political, or industrial matters, creative work in art or literature, and even study and comment on the purpose and method of teaching. Faculty members should pursue research *if they are especially qualified for it*. The tradition of the last forty years, often emphasized by university administrations, tends to make every member of a faculty feel that he must engage in research. The insistence on this tradition has gone much too far. It has distracted attention from, and tended to obscure, the primary and essential teaching function. It has excused poor teaching without securing a fair exchange in research products. Only a very small proportion of the faculty should consider research to be their peculiar duty. While many others should do research work, there is needed a new tradition based on a recognition of the real facts. A large number of young people are demanding and should be given a sound understanding of our civilization, of the problems which beset it, and of the contributions which scholarship is making toward the solution of those problems. The persistence of our civilization will depend in the last analysis on the proportion of the people who possess such understanding and upon their ideals, courage, and determination. It is of fundamental importance that no two people are alike or equal in their interests and abilities, but all are destined to hold some place and exercise some influence on the course of social evolution. Further, in any system of higher education based upon general public education the largest body of students must be given instruction for one or more years before they can demonstrate their fitness for any of the fields of higher education. Fitness for research is scarcely demonstrable before one or two years of graduate study. The energies of the college are necessarily given largely to weeding out the unfit, and to teaching those of uncertain fitness, those who will change their objectives, and those who will discover what use they may make of their college studies only after they have left college. It was stated above that 76 per cent of the total instruction given in this college is in courses intended for freshmen and sophomores.

These are the real facts. The new tradition must recognize that the most important service to be rendered to society by the majority of the faculty consists in discovering the traits and potential abilities of university students and in guiding them and training them for the performance of those services in society for which they are best fitted. This is the teaching-advising function. It is fundamental and preparatory to the research function as well as to all other forms of activity which rest upon higher education.

*Reward for teaching.*—In accordance with this principle educational institutions should seek for the major number of faculty appointments those men and women who are best fitted for this teaching-advising function and should pay them in general as well as other members of the faculty. The highest salaries should be available to those who combine high achievements in research with great skill in the direction and training of research students. It must be recognized, however, that the importance of research work (aside from the experience and discipline of the workers) depends on the value of the product. We all know individuals and groups who turn out volumes of research which has little or no value. This is usually, I think, because the work is not done in the light of competent criticism. The most vital point in all research is the criticism of hypotheses and of the means of testing the hypotheses. To a large extent the blind alleys of research effort and the waste cargoes of so-called research publication could be avoided by more effective undergraduate training in self-criticism and in the evaluation of the products of scholarship. Therefore, the highest salaries should be available equally to those of outstanding ability in critical scholarship and in training students for the direction of the processes by which the scholar's ideals are realized in the motives and practices of society. Finally, recognition must be given to the necessity of providing for the greater number of students during one or more years the services of selection and guidance along with good sound everyday teaching—teaching which carries with it inspiration for those who are receptive. Selection, teaching, and inspiration are necessary preliminaries to success in scholarship or research; and salaries and other forms of recognition attainable for excellent work in this field should approximate those available for research and scholarship. Recognition should not be too long withheld or indefinitely denied to those who give excellent service in the most fundamental function of the college.

The net result of this point of view in university administration would be to secure more capable teachers, to ease the pressure to develop research performance on the part of those who do not have native ability for that specific work, to open the way for the development of whatever abilities young instructors have, to lessen the drive toward research on the part of students who ought to cultivate other qualities in which they are better endowed. The colleges would do their fundamental work better, the graduate schools would profit by better selected students who direct their energies to goals more appropriate to them, and the financial support which society puts into higher education would yield greater returns in that social intelligence and equilibrium which is so important in relation to the inevitable processes of change.

The several efforts that have been made toward securing better recognition for teaching in this college have yielded slight results. This is probably because from year to year the body of students for whom elementary teaching, selection, and guidance must be provided has been so large and has increased so rapidly that the state could not provide adequate salaries. It is certain that the salaries have not been commensurate with the public value of these services when adequately performed. This is one reason for the efforts that have been made over a period of

twenty years to transfer a part of the work of selection of college students to the period of secondary instruction and to the agencies for advising at the time of high school graduation and of admission to college.

*The problem of selecting students.*—Two basic principles must be recognized as a condition for understanding this problem. First, efficient and successful selection of young people for any kind of opportunity is a service to all the applicants. Rejection of some saves them from misdirected efforts, waste of time, and disappointment. In a well-organized democratic system selection for one opportunity would be paralleled by selection for each other opportunity available. This is the purpose of guidance and placement systems in schools. Where guidance systems are not at work at the lower levels of an educational system, selection exercised at some higher level, instead of being accepted as a service is likely to be regarded as the denial of a right.

Second, the practice of selection by a higher educational institution is not a matter of securing the special interest of that institution but of enabling it to perform the services for which society maintains it. In institutions supported at public expense the function of offering coveted opportunities to individuals must not outweigh the function of providing trained individuals to make the contributions that society needs from them. Each educational institution trains individuals to perform certain kinds of services and each institution performs its social function only to the extent that it deals with those individuals whose innate abilities enable them to render those services to society. It must not be forgotten that the range of services for which the liberal college gives preparation is much wider and much less clearly defined than is the case with any professional school.

As the result of studies begun in 1915 this college has been able since 1921 to give valuable advice to prospective students and to make some improvement in the selection of students from the standpoint of the services to society which they would probably be able to render. These studies have been followed up by state-wide testing programs and by increased attention to advising in the high schools; the private colleges have co-operated in the work, and the university Board of Admissions has instituted studies designed to discover whether just and useful guidance can be given to prospective students in the various university units.

In the meantime popular influences acting in the opposing direction have been at work with increasing effect. First among these are inferences from experience in war, industry, and business. Young people have observed that those who get recognition, positions of leadership, and good salaries have been college graduates. Consequently young people in increasing numbers have sought college diplomas. In this they have been encouraged by the publicity of the colleges, which required students for their own support. This publicity has been supported by reports from business men (e.g., President Gifford of the American Telephone and Telegraph Company) showing that in business administration college graduates had had greater success than others and that over a period of years salaries had increased approximately in proportion to the excellence of the individual's college record, scholastic honors received, etc. The difficulty about these reports is not that they are erroneous but that young people have drawn the wrong inferences from them. Writers have not always guarded against this as they might.

The effect of these influences has been to encourage increasing numbers of young people to try for business success by the route of college without consideration of their capabilities. Young people have failed to realize that success in business depends on certain qualities which are not to be obtained in college. On the other hand, these same qualities, broadly speaking, are necessary for success

in college. These qualities cannot be given by colleges but are given by nature. They are derived from parents and in large measure can be discovered and their strength in any individual estimated before he goes to college. The tragic circumstance that every educator meets is that those students who prove to be least capable are nearly always most sure that they possess the desired abilities and most insistent on having another chance. The wish is father to the thought. In going to college youths are seeking coveted ends without understanding the qualities really required. They have the will and perseverance to use what they mistakenly believe to be the means to advancement. They do not know that their own qualities decide their destiny and that these qualities are determined before birth. The influences above mentioned are preventing young people from seeking those occupations for which nature has endowed them, and are leading them to seek success by artifice where nature is not on their side. It is useless to expect nurture to produce red flowers from a plant whose nature it is to bear white ones.

Another way in which popular influences have misled many youths is in the advice frequently given that students should go to college for the "life," the activities, the experience of working with men, etc.—not to spend their time grinding and sweating on studies. Since the onset of the depression less has been heard of this shallow, silly advice and fewer students are following the lead of the college politicians.

The period of expansion and speculation followed by the inevitable collapse and the six depression years have left youth in a confused and uncertain state of mind and without any better direction than before regarding the means of adjusting themselves to the world. In consequence another rapid increase in college enrollments is in progress. In 1935-36 the number of students enrolled in this college was equal to one for every 473 of the population of the state. In 1913-14 the ratio was one to 1,366. In the meantime there has been no great change in the percentage of our students coming from other states or of Minnesota students going to institutions in other states. This trebling of the portion of the population served by this college would be a source of great satisfaction if we had evidence that the increased numbers were selected from among those who are best fitted to carry to society the services that higher education has to offer. There are definite evidences that progress is being made toward this goal. It is by no means clear, however, that the people of the state are showing the same degree of intelligence in directing the use of their intellectual resources as the farmers are giving to improving their breeds of cattle, the business men to their sales management, or the manufacturers to their technical processes.

During the growth of Minnesota and the Northwest certain services have centered in Minneapolis and St. Paul: wholesale business, trade in agricultural and road building machinery, manufacturing, transportation, financial management, banking, etc. These industrial and commercial enterprises (and to some extent the presence of the University itself) have drawn together and given support to the families whose sons and daughters make up more than half of the students in the University. No way has been found by which the people of these cities can contribute to the support of the University in proportion to the number of students they send to it. A few years ago a careful examination showed that Minneapolis supplied 46 per cent of the students and paid in taxes 17 per cent toward the support of the University by the state. It must be remembered that the students' fees pay only the smaller fraction of the cost of their instruction (in this college about one fifth).

Speaking of the students of the College of Science, Literature, and the Arts alone, in 1931-32 50 per cent of the entering freshmen came from Minneapolis, 18.6 per cent from St. Paul, 22.3 per cent from the rest of the state, and 9 per cent from other states. Freshmen coming from Minneapolis numbered one for each 663 of the city's population, from St. Paul one for each 1,011, and from the rest of the state one for each 5,700 of the population.

Efforts made during the year just closed to advise and stimulate freshmen brought out the fact that 354 freshmen who in their high schools had ranged from valedictorians to the median of their classes did unsatisfactory work in their first quarter here. Seventy-four of these had done such poor work that they were put on probation during or at the end of the fall quarter. The 354 students were about 30 per cent of all freshmen in this college who came from the upper half of their high school classes. The efforts that were made to help these students and their final records for the year will be told in a report of studies of five freshman classes now in progress.

For the present purpose it is important to notice that the most frequent explanation offered to me in conversation with these students was, "I got through high school without working and I thought I could do the same here." Doubtless a larger number had real difficulties arising out of financial or other conditions.

*The state and education.*—Owing to the zeal of its people for education the state of Minnesota has come to support a larger university in proportion to its population and wealth than any other state in the middle west. The wealth of some of these states greatly exceeds that of Minnesota and that part of their wealth which is derived from manufacturing comes largely from the processing of Minnesota iron ores.

In Table II the figures for attendance are taken from President Walters' report for the fall of 1935 (*School and Society*, December 14, 1935). For Michigan and Iowa the state agricultural and mechanical arts colleges are added to the state university enrolment; for Ohio, Miami University and Ohio University are included, and for Indiana, Purdue University is included. Teachers colleges are not included. Population estimates for 1935 are not readily available. That for Minnesota is 2,600,000 and the total university enrolment for the year is 15,328. Thus Minnesota has one student for about 169 of its population. These figures may be a source of pride, but they are given here as the occasion for serious consideration. They give rise to the question whether the state can support the right kind of higher education for so many of its people. Also, is it wise to give specialized forms of training to many more than can find employment in the occupations or professions for which they have been trained? Would it not be better for them and the state to train some of these for the occupations in which they are likely to work? Can better adjustments be found except by careful objective studies of personal and intellectual traits and by continuous guidance service in the secondary schools and the university?

During about one half of the period of twenty-three years since the writer entered this office the country has been in an abnormal state—of war, frenzied speculation, or depression. At no time except in the Civil War period has the public mind been so distracted and uncertain or has public feeling swung to such extremes. These conditions have not been favorable to the sober consideration of educational policy or to the adequate support of education which arises from clear understanding of its services and public values. It is clear now that the times through which we have passed emphasize the necessity of giving more serious attention to educational planning.

TABLE II. POPULATION AND UNIVERSITY ENROLMENT

	CENSUS 1930	UNIVERSITY ENROLMENT 1935	RATIO
Illinois .....	7,630,654	11,528	662
Ohio .....	6,646,697	15,946	422
Michigan .....	4,842,325	13,646	355
Indiana .....	3,238,505	9,441	343
Wisconsin .....	2,939,006	9,065	324
Iowa .....	2,470,939	9,554	259
Minnesota .....	2,563,953	12,873	199

In spite of the troubled period this college has made great and lasting advances in its conception of the purpose and curriculum of the college, its selection and guidance of students, and its direct and indirect contributions to science, public affairs, and the art of living. These contributions are attested by the stream of publication in all fields of knowledge and by the participation of members of the faculty in scientific associations, in commissions for inquiry and research, and in advising public and quasi-public bodies or officials. The striking increase in college registration in the last two years emphasizes the importance of this college as an essential bridge between secondary education and professional education in most fields. The position of this college relative to the other units of the University as one of essential community of interest is clearer today than ever before. It is to be hoped that the college will continue its services to other units and that it will be assured of support commensurate with the work that it does.

Respectfully submitted,

J. B. JOHNSTON, *Dean*

## THE INSTITUTE OF TECHNOLOGY

*To the President of the University:*

STR: I submit the following report for the Institute of Technology from November 1, 1935 to June 30, 1936.

*Establishment.*—The Institute of Technology was created by action of the Board of Regents on October 19, 1935, to become effective November 1, 1935. This carried out a plan that had been considered as early as 1919, to amalgamate the technological branches of instruction and research of the University into an Institute of Technology embracing the College of Engineering and Architecture, the School of Chemistry, and the School of Mines and Metallurgy, including the Mines Experiment Station.

The administration is cared for by a dean of the institute, a dean of administration, an administrative assistant for each of the three units, an advisory board, and a general faculty which includes the full professors of mathematics, physics, and geology of the College of Science, Literature, and the Arts.

*Reorganization.*—The initiation of the Institute of Technology has entailed a large amount of reorganization to provide some degree of unification in the several units comprising it. A new system of registration and of keeping student records has been adopted. A common set of entrance requirements for all freshmen entering the institute becomes operative in September, 1936. A common curriculum for all students in their first year in the institute is under consideration.

Revision of the curricula in the School of Mines and Metallurgy has been partially completed. English has been introduced for all three quarters of the first year. Assaying has been removed from the first to a later year. The requirements in mathematics, chemistry, and English in the first year will be the same as for other students in the institute.

Plans for revision of the curricula in the School of Mines and Metallurgy beyond the first year include the same type of introductory courses in physics as taken by other students, removal of industrial trips and field courses from the spring quarter into the summer so as to have the spring quarter intact for increased instruction in residence, and some revision of courses in metallurgy.

In the School of Chemistry, high school chemistry has been dropped as an entrance requirement in order to be uniform with other departments in the institute, but students entering the institute without high school chemistry must take additional work in chemistry without credit. Also students entering without higher algebra or solid geometry must take these without credit. Opportunity to take these courses within the institute will be provided.

The School of Chemistry has adopted the principle of recognizing "quality credits" in a 1:10 ratio to apply toward graduation in lieu of elective courses. The senior qualifying examinations have been replaced by a straight passing requirement.

*Combined Engineering-Business courses.*—The Institute of Technology and the School of Business Administration offer five-year combined courses which enable a student to complete the requirements for the Bachelor degrees in both engineering and business administration. More than one hundred students are already registered in the various combined courses.

*Enrolment.*—Tables I and II show the enrolment in the several units of the institute since 1931-32. The general trend is again upward after having passed through a minimum in the year 1933-34.

*Engineering Experiment Station.*—The purchase by the University of several industrial buildings contiguous to the campus has given an opportunity to expand the facilities for engineering research and experimentation. The regents assigned two of the buildings to the institute and provided for their renovation and equipment with the aid of the Works Progress Administration. Space will be provided for the Northwest Research Foundation to carry on experiments with lignite and with alpha cellulose. The Department of Mechanical Engineering will move part of its work in internal combustion engines to one of the buildings and will also conduct experiments in heating, ventilating, and air conditioning there. Experiments in the setting of cement at low temperatures will be allotted space. The Department of Aeronautical Engineering will have space for wind tunnels and the operation of airplane engines. Additional space will be held in reserve for future uses.

TABLE I. COMPARISON OF FRESHMAN AND TOTAL ENROLMENTS FOR FIVE YEARS IN ENGINEERING, ARCHITECTURE, CHEMISTRY, AND MINES, FALL QUARTER

GROUP	1931-32	1932-33	1933-34	1934-35	1935-36
<i>Freshman Enrolment</i>					
Engineering .....	433	223	184	213	259
Architecture and architectural engineering .....	51	25	12	24	20
Chemistry and chemical engineering ...	135	86	73	97	118
Mines and metallurgy .....	34	50	44	102	82
Total freshmen .....	653	384	313	436	479
<i>Total Enrolment</i>					
Engineering .....	1,189	990	877	873	904
Architecture and architectural engineering .....	219	158	156	128	103
Chemistry and chemical engineering ...	423	369	331	373	394
Mines and metallurgy .....	156	159	149	203	190
Total enrolment .....	1,987	1,676	1,513	1,577	1,591

TABLE II. COMPARISON OF ENROLMENT BY CURRICULA FOR FIVE YEARS IN ENGINEERING, ARCHITECTURE, CHEMISTRY, AND MINES, FALL QUARTER

COURSE	1931-32	1932-33	1933-34	1934-35	1935-36
Aeronautical engineering .....	225	186	181	187	202
Agricultural engineering .....	18	25	20	23	24
Architectural engineering .....	58	37	29	14	6
Architecture .....	146	110	117	103	88
Chemical engineering .....	299	241	221	261	269
Chemistry .....	124	128	110	112	125
Civil engineering .....	234	218	176	175	162
Electrical engineering .....	420	291	261	261	254
Interior architecture .....	15	11	10	11	9
Mechanical engineering .....	255	221	186	174	229
Mines and metallurgy .....	156	159	149	203	190
Prebusiness .....	37	49	51	53	33
Miscellaneous .....	.....	.....	2	.....	.....
Total .....	1,987	1,676	1,513	1,577	1,591

*United States Bureau of Mines.*—The technical staff was increased from four to five men, including T. L. Joseph, supervising engineer in charge of the station.

The following paragraphs indicate the scope of the work that is being carried on at the present time:

The demand for deep-drawing steel, susceptible to fabrication into a wide variety of articles, has increased markedly in recent years. In many cold-stamping or forming operations the metal is elongated 30 to 50 per cent. This type of steel, illustrated by automobile fender stock, must be low in sulphur. The production of low-sulphur steel requires that the pig iron, comprising 50 to 60 per cent of the open-hearth charge, be low in sulphur. Proper desulphurization is therefore a live problem in all plants in which new modern strip mills have been installed or planned. A method was developed for comparing the relative desulphurization power of blast-furnace slags at 1,500° C. The effect of various slag components, such as lime, silica, alumina, and magnesia, was determined. Charts were prepared showing the effect of the various components in different ranges of composition. Data obtained eliminated the confusion existing as to the effect of magnesia and alumina upon desulphurization. The substitution of magnesia for lime lowers the desulphurizing power except in basic slags in which magnesia produces a desirable thinning action. The substitution of alumina for silica improves the desulphurizing power of slags except in ranges of slags having high viscosity. This observation is significant in view of the increased use of iron ore concentrate deficient in alumina.

Fuel economies, ranging from a few hundred to seven hundred pounds of coke per ton of pig iron, have been effected in a number of plants during the past twelve years by crushing hard, dense ores. The necessity for proper size preparation of such ore was established by work with the Bureau of Mines' experimental blast furnace in 1924. At that time, however, no basis was established for determining the size to which ores varying in physical properties, such as porosity and permeability, should be crushed.

A method was developed for comparing the relative reducibility of iron ores. Data on a wide variety of ores established a relation between porosity and reducibility. The relation developed indicated the proper degree of crushing of ores within certain ranges of porosity.

The work on explosive crushing was continued to determine the most efficient method of operation. By using very small quantities of steam the efficiency is increased greatly at the expense of a slight decrease in capacity. The explosive machine has been developed and in its present improved form may be utilized in a pilot-size demonstration.

Experiments on the use of a nozzle for crushing purposes have been carried on for both air and steam pressure. By blowing the material through a nozzle by means of high-pressure air or steam against an impact plate, high capacities with very fine crushing are accomplished. This method, while not developed to the efficiency of the explosive machine, has simplicity and low equipment cost to recommend it.

*Mines Experiment Station.*—The work of the Mines Experiment Station is divided into two branches, namely, state service work and research work. The state service work, which includes examining, analyzing, and testing all minerals submitted from the state, is supported by funds from the university general support budget. This work goes ahead continuously. Hundreds of samples are sent in from all over the state by people of all classes who wish to know what the material is and whether or not it is valuable. In addition to this, many tons of iron and manganese ore are shipped to the station by the larger mining companies for the

purpose of determining whether or not the material submitted can be beneficiated and, if so, by what means. It is gratifying to note that since the establishment of the Experiment Station, the amount of beneficiated ore shipped from the state has increased from 8 per cent of the total ore shipments in 1911 to 35 per cent in 1936. The engineering staffs of the mining companies, assisted by the Mines Experiment Station, are largely responsible for this increased use of beneficiation processes, by means of which valuable high grade ore is manufactured from low grade material previously considered worthless.

During the past year, 22 large samples of ore have been submitted by the mining companies for detailed study, experimental work, and recommendations as to the value and proper method of beneficiation. In addition to this, 196 smaller samples have been submitted which required analyses but no detailed testing work. The sixteenth annual edition of the *Mining Directory* has been published and distributed, and a bulletin on the magnetic roasting of iron ore is being prepared for publication next year.

The research work of the station is supported largely by special appropriations by the Minnesota Legislature made at the request of the University. Since 1921, the legislature has been appropriating funds for the development of new processes for the treatment of low grade iron and manganese ores of the state. The economic value to the state of supporting these research projects may be illustrated by one particular case in which a single project worked out at the Experiment Station and put into commercial use has paid back to the state up to the present time in taxes alone over \$200,000.

A new process has been developed for the magnetic roasting and concentration of low grade ore. This process has been put into commercial use on the Mesabi Range, and by the close of the 1936 ore shipping season will have produced 25,000 tons of high grade ore from material that had previously been rejected as worthless. This plant, which was originally built jointly by a Minnesota mining company and the University, has been taken over entirely by the mining company, and the University has been reimbursed for its interest. Work is now in progress which it is expected will improve the operation and reduce the cost of this new process to such an extent that it can be used generally for the treatment of large quantities of low grade ore.

The last legislature appropriated funds for a study of the use of cast iron as highway surfacing material. With the development of new methods for the utilization of the almost inexhaustible quantities of low grade ore in Minnesota, the increased market that would be created by the general use of cast iron for paving purposes would be a very great asset to the state. For this, if for no other reason, the investigation is of great importance. In addition it is possible to provide any type of ribs, studs, or corrugations in the surface of the cast iron paving blocks that is found to provide the best grip for the wheels of rubber-tired vehicles. This subject is being investigated, using a special testing machine designed and constructed for this particular purpose by the Experiment Station. By means of this machine, the strength with which both new and worn automobile tires grip surfaces of various kinds at various car speeds can be measured. Different cast iron surface designs similar to the tread designs on automobile tires are being investigated, with the idea of developing a surface that will be permanent, easily cleaned, pleasant to drive on, and as nearly skid-proof as possible. Much interesting and valuable information is being secured from this investigation and eventually fundamental design principles will be determined, making possible the construction of cast iron paving blocks of a type best adapted to modern automobile traffic. Cast iron pavements can be laid at about the same cost as other high grade pave-

ments, and if a surface design can be provided that is more nearly skid-proof than existing pavements, the general use of this material should increase the safety of automobile transportation and aid in the solution of traffic problems.

### SERVICE TO THE MINNESOTA TAX COMMISSION

The School of Mines and Metallurgy continued to carry on the work of estimating ores for, and acting in a consulting capacity to, the Minnesota Tax Commission in accordance with the agreement entered into between the Tax Commission and the Board of Regents in 1909.

Mr. E. M. Lambert, who has been in charge of this work since 1918, continues in the work and is assisted by Mr. L. S. Heilig. As the last biennial report to the Tax Commission covers the period from September 1, 1932 to August 31, 1934, this report will cover the same time interval and figures quoted will be taken from that report.

*Object.*—The ore reserve estimates submitted to the Tax Commission are used by it as one of the factors in determining the valuations of mineral deposits for ad valorem tax purposes. These estimates are based on estimates and data furnished by the mining companies and checked by our engineers. It is necessary to make inspection trips to the mines under consideration and considerable time is spent in the field for this purpose. These field trips help to keep in touch with the industry and its progress in general.

*Services.*—During the biennium ending August 31, 1934, the School of Mines and Metallurgy has reported on 102 properties. An aggregate of 208,108,171 tons of Bessemer, non-Bessemer, and manganiferous iron ores is involved in these reports. Of these 102 reports (of which 43 were of a negative nature) 41 were made on properties examined by us for the first time.

Of the above mentioned 102 properties, 23 showed an increase of 37,999,762 tons of ore, while 11 showed a decrease of 1,708,089 tons. The net increase shown in all properties reported during the biennium was 36,291,673 tons.

In addition to the above merchantable ore, the school reported 12,707,412 tons of non-merchantable ore.

Included in the assignment for the year 1933 was a request from the Tax Commission to examine the results of a comprehensive exploration campaign carried on in Aitkin and Crow Wing Counties during the summer of 1929 by the Minnesota Exploration Company. This exploration had been given wide publicity in the press of the state. The results of the drilling were of a negative nature.

The usual routine work of the school's service to the Tax Commission was interrupted during the summer of 1934 by a request from the commission to assist in the preparation of the state's case against five mining companies who allowed taxes amounting to \$1,750,000 to become delinquent. Mr. Lambert spent the entire time from May 15 to September 15 in preparation and attendance in court while Mr. Heilig spent the entire time from June 25 to September 1 in the same way. Mr. Lambert spent two days on the witness stand in presenting certain phases of the state's case during the trial and was again called as a rebuttal witness when the court reopened the case to get some additional evidence. The final disposition of the case is now in the hands of the Minnesota Supreme Court.

*Field work.*—In addition to the trips to Duluth on account of the court case, only one trip was taken to the iron ranges during the biennium. This trip lasted six days and required the full time of two men.

Respectfully submitted,  
SAMUEL C. LIND, *Dean*

## THE DEPARTMENT OF AGRICULTURE

*To the President of the University:*

SIR: I submit the following report of the Department of Agriculture for the biennium 1934-36.

During the biennium the relations of the Department of Agriculture with the Federal Government have been greatly increased. In 1935 the Federal Congress passed the Bankhead-Jones Act which provided additional funds for resident teaching, research, and extension in state colleges and universities. These funds are to be provided in increasing amounts for five years and thereafter in fixed amounts equal to the maximum reached in the fifth year. For immediate use approximately 80 per cent of these funds was appropriated for extension and it is expected that the greater part of the extension money shall be spent in counties for county agent service. Of the total funds ultimately to be provided for all three lines of work, about 65 per cent will go to extension.

*Increases in federal funds.*—The budget of the Department of Agriculture for 1934-35, exclusive of extension, was approximately 13 per cent from federal funds. The budget for 1935-36, exclusive of extension, indicated nearly 14.1 per cent from federal funds. The budget for extension in 1934-35 indicated nearly 71 per cent from federal funds whereas the budget for 1935-36 indicated 76.5 per cent from federal funds. With federal funds constituting a larger proportion of the budget than formerly and with some responsibility for the administration of these funds resting with certain federal departments, a clear understanding between these departments and ourselves becomes increasingly important.

The Bankhead-Jones resident teaching funds are administered by the Department of the Interior in the same manner as other federal funds appropriated for resident teaching in state colleges and universities, hence they present no new problems. The research and extension funds are administered by the United States Department of Agriculture. The research funds provided for in the Bankhead-Jones Act are distributed 60 per cent to the states and 40 per cent to the United States Department of Agriculture. Half of the money given over to the United States Department of Agriculture must be used in regional laboratories set up for the purpose of conducting new investigations. Altho the United States Department of Agriculture could establish these laboratories quite independently of the state stations, it has thus far chosen not to do so. Instead, it has asked the directors of the stations in different regions to outline researches that might properly be conducted on a regional basis, and the nature of the work to be undertaken in each laboratory established to date has been in keeping with suggestions and recommendations coming out of the states. In each case the laboratory has been located with some state experiment station and each station in the region involved has been asked to appoint a member of the staff to serve on a council of collaborators whose function is to advise with the director of the laboratory on problems, procedures, and results. With this type of setup it is anticipated that each laboratory will serve to correlate and integrate those researches of the stations in the region which have a bearing on the field covered by the laboratory, but it is clearly understood that the stations are at liberty to conduct investigations in the same field quite independent of the laboratory. Without such an understanding it might be contended that the effect of the regional laboratories would be

in the direction of federal control of all researches coming within the scope of their activities. But with this understanding, the co-operation between the United States Department of Agriculture and the state stations in connection with regional laboratories should serve to expand and strengthen the program of research in harmony with the needs and policies of the states.

*The extension program.*—As indicated above, the Bankhead-Jones Act provided much more money for extension than for resident teaching and research. As in the case of practically all previous federal appropriations for extension, the act provided funds for the employment not only of specialists but also of county agents. To be of significance in furthering extension in the counties, the sum appropriated obviously would seem large compared with the sums that could be effectively used for resident teaching and research. For a number of years before the Bankhead-Jones Act was passed, extension directors had called attention to the need for additional funds if extension was to be generally established as a system of education in the counties throughout the country. This need, as emphasized by the directors, constituted one of the basic arguments for additional appropriations.

Another argument arose in connection with the Agricultural Adjustment Act. When this act was passed the secretary of agriculture asked the extension service in each state to co-operate with him by helping to inform farmers about the act and to form county organizations necessary for carrying out its provisions. Out of funds provided for the administration of the Agricultural Adjustment Act, the secretary supplemented extension funds in order that the co-operation for which he asked could be made effective. The restrictions surrounding the use of these funds presented a number of difficulties. One pertained to the employment of men capable of effective work, because the term of employment had to be limited to ninety days. Another difficulty arose because a man employed on AAA funds had to confine his work solely to the AAA program. After several months experience in handling the two funds (regular extension and AAA funds) many state directors of extension expressed the opinion that co-operation with the secretary of agriculture on matters pertaining to the Agricultural Adjustment Act could be made more effective by enlarging extension funds to such an extent that a supplement from Agricultural Adjustment Administration funds would be unnecessary. In the Bankhead-Jones Act no mention is made of this matter, but as the National Congress increased funds for extension, it reduced funds for the administration of the Agricultural Adjustment Act and it was generally assumed in the national administration and in many states as well that co-operation with the secretary of agriculture in the Agricultural Adjustment Act program would continue uninterrupted and that a better arrangement had been made for it.

*Problems of policy.*—If what has occurred relative to the part extension has taken in carrying out the Agricultural Adjustment Act should be interpreted as a permanent right of the United States Department of Agriculture to demand the co-operation of the extension service in the states to assist in carrying out specific agricultural programs made by acts of the National Congress, a new feature with respect to state programs of extension will have been introduced. Our belief is that it is the prerogative of the states to formulate their own programs of extension education and to select and direct the personnel for conducting those programs. In view of the great emergency existing when the Agricultural Adjustment Act was passed, we believe that the co-operation of the extension service with the secretary of agriculture was commendable. Equally grave emergencies may arise in the future to require similar co-operation, but the right of the states to make

their own programs of extension education in keeping with the general principles of the federal acts providing funds for it, should be scrupulously protected. Should any future federal act invade this right, we believe that it should not be acceptable to the states. In our judgment any sound program of education involves strong local interest and responsibility and especially when the program centers in definite localities as is the case with extension. One of the major needs now is greater determination on the part of counties to provide a larger proportion of the necessary financial support for extension and less willingness on their part to depend primarily on funds coming from state and national sources.

*Co-operation with federal agencies.*—But the relationships of the Department of Agriculture with federal agencies do not end with federal money appropriated for our use. A number of government agencies concerned with agriculture and rural life are operating in the state under large budgets. Because of the nature of their activities they are brought into close relationship with us. Mention is made especially of rural resettlement and rehabilitation, the soil conservation service, rural electrification, rural housing, and the farm credit administration—all of which deal primarily with farmers. They maintain big staffs selected largely from the ranks of graduates of agricultural colleges. A considerable number of their employees have at some time been in the extension service of this or some other state.

Without exception these federal agencies have manifested a desire to co-operate with us. Especially have they indicated a desire not to advocate procedures with respect to agriculture that are at variance with our own program of teaching. For example, rural rehabilitation has an understanding with us which provides that its representatives shall adopt programs of teaching with reference to farm practices which conform to our program in the various counties. The national soil conservation service is contributing the greater part of the salary of a specialist who is under the complete direction of our Agricultural Extension Division. This specialist advises with county agents and with others who are in contact with co-operators on farms where soil conservation demonstrations are under way. What this specialist teaches with respect to soil conservation is agreed upon in consultation with us, hence none of his teachings are at variance with what we consider sound agricultural practice.

The Farm Credit Administration has formed a very intimate relationship with many farmers through the extension of loans. Being anxious to make sound loans, this agency is naturally concerned about the methods of farming employed by those to whom loans are extended. Here again our co-operation has been sought. The Farm Credit Administration has conferred with us relative to our program as it applies to the production and marketing of crops, and in contacts with their clients they endeavor to impress upon them the necessity of following practices advocated by our institution.

The large measure of co-operation between the various governmental agencies operating in the state and ourselves relates mainly to such matters as soil management, crops, marketing, rural credit, etc. In the development of their national programs these agencies have conferred freely with representatives of the state institutions in different regions for the purpose of developing procedures that would be considered sound and advisable. But the representatives from the state institutions have not had, nor have they asked for, a voice in formulating the broad policies of these agencies. It is hardly to be expected, therefore, that we would be in full agreement with all of their policies. In certain instances we have been prompted to speak frankly relative to our lack of agreement and there is always

the possibility that differences of opinion relative to general policies may become so marked that co-operation will be impossible. Our desire, however, is to co-operate so long as we are able to do so by following what we consider sound educational policies relative to the development of agriculture and rural life.

*Opportunity for adult education.*—As set up, the programs of these federal agencies offer many excellent opportunities for furthering a program of adult education among farmers. The Agricultural Adjustment Administration program has caused farmers studiously to consider their farming operations as never before. The same is true of the program of the Farm Credit Administration. The program of the Soil Conservation Service is developing among farmers an awareness that is long overdue, of the destructiveness and danger of soil erosion. However, most of these programs carry with them financial inducements which in some cases may overshadow and obscure their educational features. Ever since 1862 the Federal Government has sponsored agricultural education. It has provided large sums to the states for resident teaching, research, and extension. Despite all this, a man who undoubtedly is familiar with what the government has done with respect to agricultural education recently remarked to the writer essentially as follows: "This Agricultural Adjustment program is the first instance in which the government has attempted to do anything of real significance for the farmer." Apparently the government's efforts to do something for the American farmer through education had not appealed to this man. The extension of benefit payments had appealed to him. We believe that we can successfully demonstrate that the farmers of Minnesota are becoming increasingly interested in education. To date, these special programs have perhaps helped to increase their interest, but carried too far and too long, they contain the possibilities of centering interest in immediate help and benefits rather than in securing information and training for efficient farm operation and rural living. Our function is to stress increasingly the importance of education.

Needless to say all these added relationships with federal agencies have greatly added to demands on the time of those responsible for administrative duties in the Department of Agriculture.

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

*Registration.*—The college registration has shown a complete reversal of recent trends, and during the biennium the total college registration has passed the previous all-time high mark by more than 28 per cent.

#### REGISTRATIONS IN AGRICULTURE, FORESTRY, AND HOME ECONOMICS

	1933-34			1934-35			1935-36			INCREASE OR DECREASE OF 1935-36 OVER 1933-34	
	Regis- tration	Increase or Decrease		Regis- tration	Increase or Decrease		Regis- tration	Increase or Decrease		No.	Per cent
		No.	Per cent		No.	Per cent		No.	Per cent		
Agriculture ...	254	-8	-3	290	+36	+14	398	+108	+37	+144	+56
Forestry .....	154	-47	-23	323	+169	+110	486	+163	+50	+332	+215
Home Econ. ...	451	+8	+2	430	-21	-5	504	+74	+17	+53	+11
Total .....	859	-47	-5	1043	+184	+21	1388	+345	+33	+529	+61

The largest increase has been in Forestry, due mainly to the unsatisfied demand in various government projects for men trained in this field. It is probable that we are close to peak enrolments in Forestry, because the increased enrolments in forestry schools throughout the country and the establishment of new schools bid fair to create an oversupply. The second increase in size has been in Agriculture, where government and state programs and various agricultural movements have created a brisk demand. While this increase is fairly large, there is no reason why it should not continue. It seems probable that a considerable increase in the agricultural registration would be justified by present prospects. Home Economics has had the smallest, but a steady and healthy increase. The conditions appear to be quite normal. An increasing number of students from the Minneapolis campus are availing themselves of the offerings in home economics. It is probable that these registrations will continue to increase.

*Curricula.*—A rearrangement of several fields of work has resulted in the formulation of a new Wild Life Management Curriculum, open to students in Forestry who are preparing for game protection and management work and to students in Agriculture who may be interested in the commercial aspects of this field. It also offers opportunities to those who plan a scientific research career. The Wild Life Management Curriculum prepares for a field of activity in land use which in no way competes with existing agricultural pursuits. It has close affiliations with the recreational activities which constitute a large source of income to the state in the use of its natural resources for summer visitors. The formulation of the Wild Life Management Curriculum was made possible by already existing subject-matter courses offered in various colleges of the University.

This college does not maintain a complete veterinary curriculum. Minnesota students desiring to take courses now offered in the pre-veterinary field have been doing this for some years. In order to assist such students, a Pre-Veterinary Curriculum has been formulated.

The Home Economics Curriculum has been thoroly revised by increasing the elective and optional courses in the various programs. One new curriculum, Home Economics and Nursery School Education, has been established in co-operation with the Institute of Child Welfare.

The curriculum in Agricultural Science, which offers to students specialized training in the sciences that are fundamental to agricultural pursuits, has been expanded to include similar opportunities in the field of home economics and forestry—a curriculum in Agriculture, Forestry, and Home Economics Science.

It has been the aim of this college to avoid, wherever possible, duplication of teaching or other educational expenditures and to use as far as possible the co-operation of other colleges in the establishment and maintenance of professional and vocational curricula. These curricula are jointly established and administered by the colleges involved and six are now maintained: two (Home Economics Education and Agricultural Education) with the College of Education, one (Agricultural Engineering, Professional) with the Institute of Technology, one (Agricultural Business Administration) with the School of Business Administration, one (Agricultural Journalism) with the College of Science, Literature, and the Arts, and one (Home Economics and Nursery School Education) with the Institute of Child Welfare.

*Student relations.*—Improvements have been effected in the methods dealing with delinquent students. Delinquency is now measured more on the basis of actual progress towards graduation than on individual failures in subject-matter courses. The primary objective is to help the students and the parents to discover

at the earliest opportunity whether or not the student in question can profitably seek a degree or even remain in college. A special faculty committee interviews all entering students whose prospects of success are not bright. A second committee deals with those students who show outstanding abilities. Perhaps the most important advance made has been in an experiment on tests for all students who enter this college as freshmen. Three years of a four-year experiment in devising special tests have been completed, and indicate the probability that one or two tests may be devised which will give valuable information as to the student's aptitude in, and suitability for, the courses offered in this college.

The student self-government honor system in the conduct of examinations has continued in this college for more than twenty years. A recent vote of the student body showed over 90 per cent in favor of maintenance of this system.

The students in this college have made repeated requests for an increase in facilities for social purposes. Because of the somewhat isolated position from the Minneapolis campus, they find it necessary to look to University Farm for social activities. By an increase in the quarters for the Men's Union, some relief has been obtained. The Y.M.C.A. and Y.W.C.A. offices and other religious organizations contribute materially to a healthy social environment.

Outstanding in student activities during the biennium has been a special celebration in commemoration of the late Caleb Dorr of Minneapolis, who in 1919 bequeathed a fund of more than \$100,000 for the purpose of aiding "worthy and indigent students" in the College and Schools of Agriculture. During the sixteen years that this fund has been in use more than \$40,000 has been made available to students in the college and in the Graduate School. Aid has been received by approximately three hundred students. Most of these have been students who were in great need of financial assistance and whose college work was outstanding nevertheless. The financial conditions of students in this college have improved probably as a whole over the last biennium but still present many difficulties.

*Faculty.*—The work of the faculty has been somewhat increased during the biennium by greater attention to the advising of undergraduate students. The trend towards developing the individual's ability and capacity makes necessary advising activities, which are, however, time consuming and in some cases burdensome, such as in Forestry where a staff of about a half dozen instructors must act as advisers to almost five hundred students.

*Relation to other institutions.*—It has been the objective in this college to establish sound relations especially with the junior colleges and the private colleges of the state. The increasing number of transfer students from these institutions indicates that the policies are apparently successful. The maintenance of an agricultural college calls for a large investment of money for land, herds, and flocks. Every effort should be made in the state of Minnesota to avoid unnecessary duplication of agricultural, forestry, and home economics education at the college level. At the present time these subjects are taught at this level only in this college of the University. For those students who have no opportunity to take elementary agriculture and forestry at the other institutions, the college has established a plan that permits transfer students to make up in their last two or three years in the University the technical subjects which were not available in the college from which they entered. It is our belief that permanent and satisfactory adjustments can be made whereby the College of Agriculture, Forestry, and Home Economics can supply to the entire state all of the facilities necessary for teaching agriculture, home economics, and forestry on the college level. If such is the case, it will

effect a very considerable economy in possible future state expenditures and will make possible greater efficiency and service in this college.

The College of Agriculture, Forestry, and Home Economics is also fully aware of the importance to agriculture of the work done in the agricultural departments of the high schools of the state and in the schools of agriculture in the University of Minnesota, and it seeks to support and assist these schools in every way possible.

### THE SCHOOLS OF AGRICULTURE

The schools of agriculture showed a substantial increase in enrolment during the biennium. At Crookston the attendance in 1935-36 totaled 395, the largest in the history of the institution. A material factor in increased attendance was the amount of part-time employment given to students in each of the schools. A common comment has been that, on the whole, part-time employment has tended to raise rather than lower the morale of the student body. In many instances the desire of rural parents to send their children to the schools could not be gratified because of lack of funds; there were cases in which even part-time employment could not make attendance possible. The schools do not train young men and women for professional careers, but for farming and homemaking. Therefore, the interest in these schools on the part of our rural people when the conditions surrounding agriculture are not encouraging serves to emphasize their importance and value.

At the legislative session of 1935 a bill was passed making the regular high school state aid law applicable also to the schools of agriculture. The law provides that the school districts which provide high school instruction to nonresident pupils shall be paid \$7 per pupil per month by the state. This aid will tend to increase attendance at all the schools and particularly at Morris and Crookston.

During the biennium more former high school students attended the schools than ever before. At Morris during 1935-36, 15 per cent of the entire student body consisted of high school graduates, and an additional 20 per cent were students who had completed one or more years of high school. This trend seems to indicate the value of the schools as institutions giving special training to those whose vocational objectives point to the farm and who are not interested in fulfilling the academic qualifications required in connection with professional positions.

Altho cultural subjects have always had a place in the curricula of the schools, they have held closely to subject-matter that deals with farm and home operations. Under the impact of changing conditions they are widening the scope of their instruction. At University Farm the school has added to its offerings in the social sciences and is putting more emphasis on learning how to live and work with other people. The other schools are giving more attention than formerly to courses in economics, particularly as they relate to such matters as farm financing and the marketing of farm products. At Morris a course in conservation has been added which is of value to farm boys; it has received favorable comment from conservation leaders.

The outlying schools are concerned with a number of activities in addition to resident teaching and supervision of student projects. At each a program of research is conducted as a part of the regular research program of the experiment station. Each school holds short courses for 4-H Club members and for farm women. The attendance has been large. At Morris a Sheep and Lamb Feeders' Day is held each year with success. At Crookston an activity of many years

standing is Northwest Farmers' Week. Concerning the 1935 meeting, Superintendent A. A. Dowell comments as follows:

The Silver Anniversary celebration of the Northwest School Farmers' Week and Red River Valley Winter Shows, held February 4-8, 1935, was the most successful ever held from the standpoint of regional co-operation, attendance, and general interest combined. Nearly 12,000 people attended the shows and meetings. New and outstanding among the events of the Week was the recognition of 27 constructive dairy and general livestock breeders from thirteen Red River Valley counties, who had contributed greatly to the development of the livestock industry in this region. A second event of unusual importance was the presentation of a spectacular and highly educational pageant depicting the history and development of the Red River Valley. This was the most impressive demonstration of regional co-operation that has ever been witnessed in northwestern Minnesota. This co-operative undertaking brought into play, town, village and farm people from each of the thirteen counties that took part in the pageant. Approximately 250 people from these counties constituted the cast. A total of 3,300 people witnessed the matinee and evening performance, while several hundred could not be accommodated.

On July 15, 1935, Crookston celebrated the fortieth anniversary of the establishment of the station. Two former superintendents, T. A. Hoverstad and C. G. Selvig, were present and spoke. Another speaker was A. D. Stephens, former state senator, who took an active part in the establishment of the school.

### THE EXPERIMENT STATION

*Anniversary celebration.*—The year 1935 marked the fiftieth anniversary of the founding of the experiment station by act of the state legislature. In recognition of this, June 14 and 15 were given over to a review of the founding, accomplishments, and probable future course of the station. A photographic display of its noteworthy achievements was placed on exhibition and an honor dinner in recognition of the long and outstanding services of Professor Andrew Boss, vice-director of the station, was one of the most impressive features of the two-day program. The celebration served to emphasize anew that research is indispensable to progress in agriculture. The addresses given during the two days have been printed in a station bulletin.

Having reached the age limit for active service in the University, Professor Boss discontinued his position as vice-director June 30, 1936. He was succeeded by F. W. Peck who will serve both as director of the Agricultural Extension Division and vice-director of the Experiment Station.

*The emergency programs.*—During the biennium an effort was made to carry on the work of the Experiment Station with as little interference by emergency programs as possible, but unavoidably there was some interference. Professor F. W. Peck left his post as director of extension for a period of more than two years to serve as co-operative bank commissioner in the Farm Credit Administration just as the extension service was being asked by Secretary Henry A. Wallace to co-operate in the agricultural adjustment program. It seemed wise to place Professor Boss in charge of this work. The duties involved were so heavy that he could not give the customary supervision to research. The Division of Agricultural Economics particularly, and, to a limited extent, other divisions gave some time to emergency programs at the expense of regular activities. Toward the close of the biennium, however, conditions relative to research were about normal.

*Fundamental research.*—Late in the biennium Bankhead-Jones federal money became available for research. According to the provisions of the act researches prosecuted with these funds are to be of a fundamental nature and in so far as possible in important fields not so fully explored as some others. The act especially

encourages fundamental researches in fields bearing on agricultural production as well as in fields pertaining to the distribution of agricultural products.

As a rule fundamental agricultural research dealing with the various phases of plant and animal production is costly. Many specimens must be produced and studied in both laboratory and field. Many pairs of hands, in addition to those of the scientists directing the work, are needed to help in the numerous tasks involved. Often only the hands of highly trained workers will suffice. In fundamental studies pertaining to farm animals, the cost is so great that progress to date has not been in keeping with their importance to agriculture.

Major projects being prosecuted with Bankhead-Jones funds are these:

1. *A study of swine breeding with special emphasis upon the genetic phases.*—This work centers at the Waseca station but the Division of Animal Husbandry at University Farm has an important part in the project and the Morris, Crookston, and Grand Rapids stations are to participate in the program. In other words, the Minnesota station has gone about as far as it can in setting up a significant program of research in swine breeding. But in view of the importance of swine in agriculture and in recognition of the cost involved in arriving at reliable results, it is our conviction that a regional program in swine breeding should be inaugurated. Our station has joined the Iowa station in presenting such a proposal to the directors in the central states and to the secretary of the United States Department of Agriculture in the hope that the outcome will be the establishment of a regional laboratory on swine breeding organized in such a manner that a number of the stations in the region can co-operate in the prosecution of the project.

2. *A study of pastures.*—This project has many phases such as kinds and varieties of plants, cultivation, disease control, management with respect to grazing, power to produce animal growth, etc. Here again is a complex and difficult subject that has not been studied in keeping with its importance. To arrive at results of outstanding benefit to farmers will require considerable time and a comparatively heavy outlay of funds.

3. *The control of noxious weeds.*—In certain parts of the state farmers have appealed for help in controlling the invasion of weeds that cannot be controlled by any methods thus far devised. Some of the worst weed infestations occur on land of high producing power. This problem is quite as serious in surrounding states as in Minnesota. Therefore, the Federal Government has entered into co-operation with Minnesota in setting up a weed control project on a farm badly infested with weeds near Lamberton. The last legislature appropriated funds to the State Department of Agriculture for weed control. A small amount of the appropriation designated for research is being expended at Lamberton under our direction.

4. *The breeding of potatoes with special emphasis on the genetic and disease phases.*—One of the great difficulties in potato production which is very important in Minnesota is to grow a product of satisfactory quality. We have made gratifying progress in potato breeding and it is hoped that added support through Bankhead-Jones funds, which will make possible an attack on new phases of the subject, will hasten the development of more reliable and satisfactory varieties.

*A regional project.*—In March, 1935, representatives of the experiment stations in the central states met with representatives of the United States Department of Agriculture in Ames, Iowa, to discuss a regional study on systems of farming in the Middle West which would most nearly conserve the producing power of the land and which would seem best suited to the different sections of the region, bearing in mind that the farmer must attempt to follow systems that promise to be profitable. A regional study was undertaken in which the United States Department of Agriculture entered into co-operation with each of the states. A number of meetings followed in which collected data were discussed with a view to determining their validity and to harmonizing data between states in order that a sound and coherent regional report could be developed. The study is a large task but quite worth while. It should result in the adoption of systems of farming that will help materially in conserving soil fertility, and also accomplish something in reducing competition between the states in the region in the production of certain crops.

Through the development of regional laboratories and such regional studies as those referred to above, more has been done during the biennium than in any similar period in the past to bring the experiment stations together for regional attacks on problems having clearly more than local significance. This move is not entirely new; for a number of years agricultural scientists have been getting together to exchange views and material. For example, in corn breeding the states have freely exchanged their respective newly created varieties greatly to the benefit of progress in corn production. Altho regional approaches received special consideration from the Middle West stations they have not been disposed to surrender any of their rights to initiate and conduct researches along lines best suited to the needs of the states they represent. If these stations and the United States Department of Agriculture continue to co-operate in researches of a regional nature, the result should be a more effective attack on many problems and in the long run a conservation of public funds.

During the biennium 250 projects were approved and placed in the files of the Experiment Station. They represent a program of research which could not be conducted without the expenditure of a large amount of time by members of staff in the Department of Agriculture.

#### EXTENSION

During most of the biennium farmers were more interested in agricultural adjustment programs of the Federal Government than in lines of work ordinarily taken up by the extension service. In fact, they had to spend a great deal of time in studying these programs if they were to become sufficiently familiar with them to comply with their provisions. Beginning in 1933 and through most of 1934, programs pertaining to the economical growing of products of desirable quality were practically suspended but toward the close of the biennium farmers once more gave attention to efficient methods of production and management. Those responsible for the administration of extension constantly emphasized the futility of permanently abandoning regular programs for special and emergency work despite the fact that it seemed wise to co-operate in prosecuting such work and temporarily to give it major emphasis.

Two lines of extension, home demonstration work and 4-H Club work, continued throughout the biennium without serious interruption altho a considerable amount of time was used for emergency programs—rural relief particularly—by certain members of the home demonstration staff.

None of the specialists assigned to 4-H Club work gave time to special and emergency programs. This was fortunate because the enrolment in 4-H Club work increased throughout the biennium and Minnesota received top rating for the extent and quality of her club work. In both home demonstration and 4-H Club work the comparatively small staff of workers at University Farm and in the counties was supplemented by many local voluntary unit leaders. Without the services of those who helped so willingly and efficiently without pay, the progress made would have been negligible. Many of these leaders have had experience as teachers and most of them have participated in group training having special reference to the kind of work in which they volunteered their services.

For a number of years the extension service has given some attention to young people who have outgrown 4-H Club activities but who have not become established in farming and rural affairs. Changing conditions give added emphasis to the need of working with this group. Lack of opportunity in cities tends to

hold more young people in the country and it also tends to convince them that they should do all they can to prepare for farming and country life. These young people are seeking contacts with the extension service in order to secure aid in furthering their training for farm life. During the biennium a number of study and discussion groups were organized with most gratifying results. These young people are eager for more education. They are searching for opportunities to take part in the various activities surrounding rural life. They wish to spend their leisure time in a worth-while manner and they are especially anxious to develop co-operative relations with the older rural people. They are also aware of the importance of being informed about what is taking place in society in general and therefore they are interested in studies and discussions centering in country and nation-wide social and political movements.

*The discussion group program.*—In February, 1935, Mr. Henry A. Wallace, secretary of agriculture, invited representatives from a few states to come to Washington to consider the advisability of organizing discussion groups for rural people. Some of the topics suggested pertained to land policies, tariff policies, taxation, country-urban relationships, and ways and means of achieving a desirable type of rural life. Each state was to determine the extent and manner in which it would participate in this more or less experimental program. Minnesota decided to organize discussions in six counties only and to have them led by the best qualified persons available in the Department of Agriculture. The response of the people participating in the discussions was favorable to a surprising degree. Arrangements were made for discussion groups in forty-two counties in 1935-36 and all but one of these counties requested the continuance of discussions for 1936-37. It is planned to give discussions a thoro test as a method of conducting certain phases of extension work.

As mentioned elsewhere, funds for extension were increased through the Bankhead-Jones Act. The total federal funds budgeted for extension in 1934-35 amounted to \$204,806, whereas they amounted to \$425,165 in 1935-36. State funds were increased from \$83,750 in 1934-35 to \$134,000 for each year of the biennium under review. In the case of both federal and state funds the larger share is expended in counties, and because of the larger appropriations it was possible to set up an extension program in each county of the state. It was also possible to employ long needed specialists, one each in horticulture and engineering. There were also additions in a few other subject-matter fields, but despite these, Minnesota still has a smaller staff of specialists than many other states.

The national programs pertaining to agricultural adjustment have brought the county agent into contact with practically every farmer in his county. Before these programs were inaugurated, only those farmers who were convinced of the value of the extension service or who thought they could secure desired help from the agent, identified themselves with extension. But the national adjustment programs appealed to most farmers to such an extent that they wished to become fairly familiar with their provisions and the source of this information was through extension. Apparently the widened contacts of agents have resulted in a better understanding of extension and a greater appreciation of it. As nearly as can be judged, farmers are coming to take the extension service as a matter of course somewhat as they take the public schools as a matter of course. Certainly the relationship of extension to the national adjustment programs through the biennium will serve in a measure to help determine the attitude of farmers regarding the permanency of extension work.

## SHORT COURSES

Because of the need for more than usual economy in the previous biennium, an attempt was made to reduce the number of short courses which, because of the insistent demand for them, was only partially successful. Farmers' and Homemakers' Week in 1934-35, and again in 1935-36, broke all previous attendance records.

For years a creamery operators' short course has been offered at University Farm. Toward the close of the biennium arrangements were made to lengthen this from six to eight weeks in order that adequate training could be given to meet growing requirements in dairy manufacturing.

A new feature in short courses was a course of two days' duration for greenskeepers. While those in attendance were interested in a purely recreational activity, their problems pertained almost solely to fields of study coming within the purview of the Department of Agriculture such as soils, seeding, care and management of grasses suitable for golf greens and fairways, disease control, etc.

Short courses offered during the biennium were as follows: Farm and Home Week, Ice Cream Makers' Short Course, Creamery Operators' Short Course, Retail Meat Dealers' Short Course, Commercial Florists' and Retailers' Short Course, Farm Structures Short Course, Horticultural Short Course, Greenskeepers' Short Course, Editors' Short Course, Boys' and Girls' Short Course, Short Course in Veterinary Medicine, Short Course in Forestry, Woodcraft, Scouting, and Camping Leadership, Scout Executive Seminar.

Respectfully submitted,

W. C. COFFEY, *Dean and Director*

## THE LAW SCHOOL

*To the President of the University:*

SIR: I submit the following report of the Law School for the biennium 1934-36:

In my last three biennial reports I emphasized the functions of the lawyer in society, and the training necessary to fit him for them. Those functions were said to be (1) client caretaking, or the ordinary practice of law, (2) the improvement of judicial administration, (3) providing community leadership, and (4) the task of government. It was said that the usual law school course was designed largely to train for the first of these functions, but that training for the others was left to colleges of liberal arts, and that this separation of the general education of the lawyer from his legal training was not producing satisfactory results.

The course of events of the last several years adds weight to the criticisms made in those reports. More clearly than ever, the problem is seen to be how to train men to be dynamic lawyers in a dynamic world. Law in the broad sense includes government and the task of government has become vastly more complex and important. It cannot be too much emphasized that lawyers are on the whole governing the country. They have been trained to govern a static society. They are bewildered by the demands for changes in the legal order suited to the changes in the social, industrial, and economic order. The problems outlined in those reports continue to be the major problems of the law schools of the country. The items that follow are to be considered with reference to those reports.

*The law course.*—Six years of college and law school study are required for the professional law degree. Students have the option of two years of college work followed by four years in the Law School, or three years of college work and three years in the Law School. The four-year law course, described in the biennial report for 1928-30, was first available to the entering class of 1931-32. This course offered students the choice of a fourth year in the Law School devoted to subjects dealing with philosophical and public aspects of law, as an alternative to a third year of college work. Each year since, a progressively larger proportion of the entering classes has elected this course. Twenty-five per cent of the first entering class to which it was available took the course, and over 60 per cent of the last class. This is more remarkable considering the fact that many students do not decide to study law until they have completed three or four years of college work, and that the tuition fees in the Law School are double the fees in the College of Science, Literature, and the Arts. Eleven students were graduated from this course in 1935, and eighteen in 1936. These graduates were unanimously of the opinion that this additional year in the Law School was more valuable than an additional year of college work.

The four-year course is now organized and the faculty is so impressed with its value that it has given notice that the three-year law course will be available after 1937 only to students who have a bachelor of arts or equivalent degree when they enter the Law School. This action means that the course consisting of three years of college work and three years in the Law School will be discontinued and the student's choice will be between a course of two years of college work and four years in the Law School, and a course consisting of four years of college work and three years in the Law School.

The faculty's opinion is tending to the conclusion that four years of law school work should be required of all law students even if they have a college degree

when they enter the Law School. Three years are required for a narrowly vocational training, and do not afford time for subjects of great importance. There is also a growing opinion that a good course of training for a lawyer would consist of two years of basic college work, two years of basic law work, followed by three years of mixed law and other social sciences. Our present four-year law course would be greatly improved by another year devoted to advanced courses in government, economics, sociology, etc. The reasons for giving such courses *after* the student has had part of his law training are stated in my last biennial report.

Comparing the length of our course with that required by other law schools, we find that seven schools, including one state school, require seven years of college and law school study. Nine other schools, including five state schools, require seven years except for students in the arts college of their own university, who are offered a combined course in arts and law of six years. Our school is in the third group of eighteen schools that do not require more than six years in any case.

This matter is under consideration but there is danger in moving too rapidly. Our course is already one year longer than is required for admission to the bar of the state, and the period of study required for the bar in Minnesota is as long as in any other state except Kansas. While the University should lead in raising the standards of legal education, it would be doing more harm than good to advance its requirements so far beyond the requirements for admission to the bar, that large numbers of students would be diverted to low standard law schools.

*The prelaw course.*—During the last two years the Law School has collaborated with the College of Science, Literature, and the Arts in formulating a course for prelaw students. Formerly it was difficult for prelaw students to obtain in two years all the subjects recommended by the faculty of the Law School because most of them were not available until the sophomore year. This difficulty was obviated by making courses in government and philosophy which had been open only to sophomores, available to freshman prelaw students. The prelaw students have been to some extent organized into a separate group following a largely prescribed curriculum. The course includes English Literature and Composition, Problems of Philosophy, Logic, Ethics, American Government, Comparative European Government, Principles of Economics, English Constitutional History, General Psychology, and about thirty credits of electives. These steps are in pursuance of the policy of building the student's program around the core of his interest, and developing a professional attitude from the beginning of his university course.

*Selection of students.*—Why so many weak students want to study law is a mystery. Certainly the legal profession requires at least as much mental ability as other professions, yet many students with little ability seek to enter it. Many seem to make their choice of law by process of elimination—if they doubt their fitness for other professions, they decide on law. There are not enough students of real ability in the law schools, but there are many in them whose admission to the bar would not benefit themselves, the profession, or the public.

In this respect there is a striking difference between the law schools and the medical schools. The latter, because of their limited facilities, can take only a limited number of students. Less than half the applicants are admitted to the medical schools, and the most promising candidates are selected. The law schools cannot plead limited facilities as a reason for rejection, and seek to find some tests as a basis for selection.

The only requirement of this school at present is a "C" average in the prelaw college work. That this is insufficient is proved by the fact that about one third

of those admitted fail in the work of the first year, and only about 60 per cent are graduated. Furthermore the faculty believes that the lower ranking graduates are not qualified for useful service in practice, altho their training may be useful in other fields. The school would feel bound to be more exacting if its diploma admitted to the bar.

There is great waste of student and faculty time in the present situation. Efforts are being made to devise better standards for admission. Any honor point requirement has the defect that its significance varies with the school in which it was obtained. A comparison of the records over a five-year period of students from our College of Science, Literature, and the Arts with students from other colleges shows that students from the former with the lowest honor point average (1 to 1.24) do as well in the Law School as students from other colleges as a whole. Table I shows the relation of honor point average in the College of Science, Literature, and the Arts to first year average in the Law School.

TABLE I. RELATION OF HONOR POINT AVERAGE IN THE COLLEGE OF SCIENCE, LITERATURE, AND THE ARTS TO GRADE IN FIRST YEAR LAW, 1930-31 TO 1934-35, INCLUSIVE

COLLEGE (S.L.A.) HONOR POINT AVERAGE	GRADE IN FIRST YEAR WORK IN LAW SCHOOL				
	Per Cent Below Pass- ing (70 C)	Per Cent Above Pass- ing (70 C)	Per Cent 70-74.9	Per Cent 75-79.9	Per Cent 80 (B) or over
1.00 to 1.24 .....	52	48	25	16	8
1.25 to 1.49 .....	39	61	26	23	12
1.50 to 1.74 .....	18	82	20	34	29
1.75 to 1.99 .....	15	85	10	41	33
2.00 to 3.00 .....	11	89	14	25	50

The honor point average in prelaw college work is the best single indicator of success in law studies yet available. Probably higher than a minimum "C" average should be required, and the requirement should be adjusted to the school from which the student comes. Altho about 25 per cent of the lowest group in the college work made a grade of 75 or better in their law work, it must be remembered that the college work is an important part of the lawyer's training, and these students' law records indicate that they could have made a better college record if it had been necessary to enter the Law School.

During the last three years, the faculty has collaborated with the Committee on Educational Research in devising aptitude tests. The tests have been revised each year, some success has been attained, and the experiments are being continued. To date the results have not been such as to justify reliance on them alone, but the tests are proving helpful to supplement other data. Perhaps admission may come to be determined by a consideration of all available data including the college record and rank, the standards of the college, and law aptitude tests.

*Student enrolment and its relation to standards for admission to the bar.*—The registrations for the last four years were 265, 300, 323, 335, respectively. The registration in each year of the biennium was greater than in any earlier year since 1910-11 when the school began to require two years of college work for admission.

The Law School had a much larger attendance prior to 1911-12 than it has had since that time. The maximum registration for all time was reached in 1908-1909, when it was 614. During that period the course for the law degree was

only three years after high school compared with six years now required. The school also maintained a night division which was discontinued in 1911. Furthermore during that period the University had no business school and many students took the law course for business purposes who now take the course in the School of Business Administration.

The main causes of the reduced attendance were the requirement of two years of college work for admission and the discontinuance of the night division. College work was not required for admission to the night law schools or for admission to the bar until 1931. Under these conditions the attendance in this school fell rapidly, reaching a minimum (except for the war-time period) of 162 in 1913-14. From that time attendance slowly increased. During the period 1911 to 1923 growth in the night law schools was very rapid. In 1923-24 this school had 283 students, the night law schools 1,063, making a total of 1,346, which was the all-time maximum in the state. About that time the Supreme Court began to strengthen the requirements for admission to the bar. Admission by diploma from any law school in the state had been discontinued in 1917. Bar examinations were required thereafter but they were of a perfunctory character until 1925 when the Board of Bar Examiners was reorganized and the bar examinations became more discriminating. In that year also four years of law study were required for night law schools. In 1931 two years of college work were required for admission to the bar. These changes have had little effect on the attendance in this school but they have decreased the total number of law students in the state.

TABLE II. LAW SCHOOL REGISTRATION IN MINNESOTA, 1923-35

YEAR	TOTAL	UNIVERSITY OF MINNESOTA LAW SCHOOL		OTHER MINNESOTA LAW SCHOOLS	
		No.	Per Cent of Total	No.	Per Cent of Total
1923-24 .....	1,346	283	21	1,063*	79
1924-25 .....	1,226	282	23	944	77
1925-26 .....	1,151	301	26	850†	74
1926-27 .....	982	289	29	693	71
1927-28 .....	899	291	32	608	68
1928-29 .....	913	273	30	640‡	70
1929-30 .....	951	278	29	673	71
1930-31 .....	838	256	31	582	69
1931-32 .....	728	254	35	474	65
1932-33 .....	702	265	38	437	62
1933-34 .....	692	300	43	392§	57
1934-35 .....	703	323	46	380¶	54
1935-36 .....	731	335	46	396	54

\* Five law schools.

† Six law schools; Minneapolis College of Law opened.

‡ Five law schools; Northwestern College of Law discontinued.

§ Four law schools; St. Thomas Law School discontinued.

¶ Three law schools; Y.M.C.A. College of Law discontinued.

Table II shows the total number of students in the law schools of the state between the years 1923-24 and 1935-36 and the ratio of university attendance to the total. In that period the number of other law schools in the state decreased from 5 to 3, the total number of students decreased from 1,346 to 731, or 46 per cent, the registration in this school increased from 283 to 335, or 18 per cent, and

the registration in the other law schools of the state decreased from 1,063 to 396, or 63 per cent. This school now has 46 per cent of the total number of law students in the state, compared with 21 per cent of the total in 1923-24.

The trend in respect to law schools and law school registration in this state is in striking contrast to the national trend. During the period 1923 to 1925 while the number of law schools in this state decreased from 6 to 4, or 33 per cent, and the Law School enrolment from 1,346 to 731, or 46 per cent, the number of law schools in the United States increased from 146 to 195, or 34 per cent, and the enrolment of the law schools from approximately 38,000 to 42,000, or 11 per cent. Of the law school students in Minnesota 46 per cent are taking our full-time course of six years compared with 21 per cent of the law school students in the United States who take so extensive a course.

The above record shows that since 1910, this school has sacrificed attendance to higher standards and that it has led the way to higher standards for admission to the bar. Between the years 1911 and 1931 it required two more years of study than were required for admission to the bar. When the bar requirements came up to its level, this school again increased its requirements and since 1931 it has been requiring one more year of study than has been required for admission to the bar.

*Success in bar examinations.*—In 1935, with the assistance of a federal aid student, a study was made of the records of the Board of Bar Examiners in this state to ascertain the number of candidates that are permanently excluded by these examinations. The study covered the records of all candidates who wrote their first examinations in the period 1926 to 1932, inclusive. The records of those who failed were carried down to 1935 when it might reasonably be assumed that they would not reappear for further examinations. (In the earlier part of the period candidates were permitted an unlimited number of examinations but in the later years they were restricted to three attempts.) Table III shows the results. Some of the interesting facts appearing from the study are: of the 1,229 candidates, 1,089 received their training in the state, and 140 in schools outside the state; of the 1,089 who received their training in the state, 483 were from this school and 606 from other state sources; 18.5 per cent of all candidates, 2.3 per cent of the candidates from this school, and 29.1 per cent of the candidates from all other sources were not admitted. During this period no candidate from this school who took the examinations the permitted number of times failed to get admitted to the bar.

*The law library.*—In the biennium, 17,057 volumes were added to the law library. The total is now 88,331, which places the library seventh in rank among the law school libraries of the United States. In respect to English and American material it is excelled only by the Harvard law library. Some of the notable acquisitions were 220 volumes of the *Private Acts of Great Britain* covering the period 1720 to 1885, the best collection of these acts in the United States and excelled by only one set in England; *Acts and Laws of Massachusetts from 1700 to 1726*, covering 77 sessions of this early period, a rare set found in only two or three libraries; Trott's *Laws of South Carolina*, published 1736, believed to be the first work printed in South Carolina, one of the best pieces of printing in the Colonies of which only six perfect copies are known to exist. Fine progress was made in filling in our sets of state session laws, British colonial reports, reports of administrative boards, tax commission reports, attorney-generals' opinions, etc. Second sets of the reports of several states and second or third sets of some important legal periodicals were procured.

TABLE III. RECORDS OF CANDIDATES TAKING MINNESOTA BAR EXAMINATION FOR THE FIRST TIME, 1926 TO 1932, INCLUSIVE

	CANDIDATES FROM ALL SOURCES		CANDIDATES FROM UNIVERSITY OF MINNESOTA		CANDIDATES FROM OTHER SOURCES	
First examination .....	1,229	Passed—824= 67% Failed —405= 33%	483	Passed—426= 88% Failed — 57= 12%	746	Passed—398= 53% Failed —348= 47%
Did not reappear .....	103		8		95	
Second examination .....	302	Passed—111= 37% Failed —191= 63%	49	Passed— 40= 82% Failed — 9= 18%	253	Passed— 71= 28% Failed —182= 72%
Did not reappear .....	69		3		66	
Third examination .....	122	Passed— 42= 34% Failed — 80= 66%	6	Passed— 5= 83% Failed — 1= 17%	116	Passed— 37= 32% Failed — 79= 68%
Did not reappear .....	30				30	
Fourth examination .....	50	Passed— 14= 28% Failed — 36= 72%	1	Passed— 1=100%	49	Passed— 13= 27% Failed — 36= 73%
Did not reappear .....	15				15	
Fifth examination .....	21	Passed— 8= 38% Failed — 13= 62%			21	Passed— 8= 38% Failed — 13= 62%
Did not reappear .....	8				8	
Sixth examination .....	5	Passed— 2= 40% Failed — 3= 60%			5	Passed— 2= 40% Failed — 3= 60%
Did not reappear .....	2				2	
Seventh examination .....	1	Passed— Failed — 1=100%			1	Passed— Failed — 1=100%
Did not reappear .....	1				1	
Ultimately passed .....	1,001	81.5%	472	97.7%	529	70.9%
Not ultimately passed .....	228	18.5%	11	2.3%	217	29.1%

The law library is understaffed. When the present librarian came here twenty-five years ago, he had one full-time assistant. At that time the library contained 17,340 volumes; it now has 88,331. Many of these volumes remain uncataloged. The student body has almost doubled. The law library is being used more and more by faculties and students in other departments. It contains a wealth of material of great value in history, economics, government, and sociology. These facts mean a greatly increased burden in many respects, but the full-time staff has been increased by only one in these twenty-five years. The situation has been temporarily helped by the assistance of federal aid students. When the federal aid students are no longer available an increased law library staff will be imperative.

*The Minnesota Law Review.*—The twentieth volume of the *Minnesota Law Review* was published in 1935-36. Each volume contains fifteen to twenty leading articles written by law teachers, judges, and lawyers, and numerous notes and comments written by the law students on important cases. Many of the articles are particularly pertinent to Minnesota law, and Minnesota statutes and decisions are discussed in the notes and comments. The *Review* furnishes continuation studies for lawyers and is almost indispensable to them for reference. An index-digest of over 400 pages is being published this summer (1936) which will make the volumes more usable for reference purposes. Since 1922, the *Review* has been the official organ of the Minnesota Bar Association, and has been sent to all its members under a contract with the association. This arrangement has been found mutually beneficial. The number of association subscribers is 1,923, and of other subscribers, 332.

The greatest value of the *Review* is in the training it affords to its student editors. The Law School instruction rather overemphasizes the analytical side of law study, and is somewhat weak on synthesis. No better device has been found for remedying this defect than work on the *Review*. In the past this has been restricted to twenty of the highest ranking students, but as the number of high grade students has increased, the faculty has augmented the number of student editors by eight, and may increase it still further if this proves satisfactory. The *Review* work is for these students an addition to their regular work.

*Scholarship and loan funds.*—In the biennium the Faculty Scholarship and Loan Fund received donations of \$725, and now amounts to \$3,643.23. The Law Alumni Loan Fund received donations of \$3,150 and now amounts to \$6,483.24. These funds are all loaned to the student editors of the *Minnesota Law Review*. The loans enable self-supporting students to forego outside work and to devote their time to research for the *Review*. Thus the funds aid in developing the powers of the ablest students, promote the scholarship of the whole school, contribute to the quality of the *Review* and thus to the benefit of the law and lawyers of the state. More funds are needed to provide for the increased number of student editors and no more useful gift could be made to the school than donations to these funds. The faculty is very grateful for the generous contributions made by alumni and friends to these funds.

Respectfully submitted,

EVERETT FRASER, *Dean*

## THE MEDICAL SCHOOL

*To the President of the University:*

SIR: I submit the following report of the Medical School for the biennium 1934-36.

*General status.*—The school has been conducted without marked change of requirements, curriculum, or policy. During 1936, on behalf of the American Medical Association, the school was inspected by Dr. Herman G. Weiskotten, dean of Syracuse University Medical School, and Dr. Fred C. Zappfe, secretary of the Association of American Medical Colleges. At the date of writing the findings and recommendations of the investigation have not been received. Verbal comments of the inspectors were complimentary, except to the effect that our student body is too large for facilities available.

*Faculty.*—A dinner in honor of nine retiring teachers was held at the Minnesota Union on June 10, 1936. A portrait of Dean E. P. Lyon, painted by Edward V. Brewer and subscribed for by the heads of departments on the medical faculty, was presented to the University and hung in the faculty room.

*Student body.*—The number of students all over the United States applying for admission to medical schools continues to increase. Our freshman classes for the past two years have been selected from some five hundred applicants from all parts of the country. The result is some improvement in the average scholarship of those accepted at Minnesota. From our experience it appears that the minimum standard of a "C" average will no longer secure admission to our school. While this may be a disappointment to some applicants it appears in a broad sense to be advantageous. Our experience is that students entering with a low average of scholarship are much more apt to fail in medical work, entailing loss and disappointment to such students and waste of school funds and facilities. It should be a matter of public policy that the limited facilities of the Medical School be used only by students who are able to take ample advantage of them and that only high grade doctors be trained.

We reiterate the principle stated in the report two years ago that the Medical School exists to prepare practitioners for the state. This principle has received legal standing in Indiana through opinion of the attorney general.

As a move toward better practical training the heads of our clinical departments, after a careful survey, have recommended that the number in the senior class be limited to 112. Even this number was considered too high by the inspectors representing the American Medical Association, as previously mentioned.

The matter of selection of medical students is one of the most serious and responsible tasks facing any school. Better methods of measuring aptitude and ability should be found and failures thereby diminished. A subcommittee of the University Admissions Committee has been working on this problem for two years. A special aptitude test, largely devised by Dr. A. T. Henrici and Dr. J. W. Cavett, offers promise of being a help in prognosticating success in medical studies.

*Comprehensive examinations.*—The system is being continued. The rule governing repetitions has been changed. Three trials only are now permitted.

*Wilder Memorial Fund.*—On February 22, 1935, Lucretia Wilder, a graduate student under Professor Hal Downey, died as the result of infection received in the progress of her investigation. Through solicitation among the faculty and Miss Wilder's friends a sum of \$614.90 has been paid over to the University with

recommendation that the income be used for medals and small cash prizes to be awarded to graduate students for distinguished service in anatomical science.

*Public Health Training Center.*—Elsewhere in this report special attention is called to the selection of the University of Minnesota by the United States Public Health Service as a regional training center. During the spring quarter of 1935-36 introductory three-month courses in public health administration, public health engineering, and public health nursing were held. In attendance were 5 physicians, 12 engineers, and 41 public health nurses. (This is in addition to 78 nurses who were previously in the course.) These trainees came from twelve states in this general region.

*Cancer Institute.*—During the past biennium the Citizens Aid Society has generously continued its annual grant of \$7,900 for the support of research, special service, and education in the field of cancer. The accomplishments which this gift have made possible are most gratifying and have been the basis of an increased grant for the next three-year period.

Respectfully submitted,

HAROLD S. DIEHL, *Dean of Medical Sciences*

### THE SCHOOL OF NURSING

The School of Nursing submits the following report for the biennium July 1, 1934 to June 30, 1936.

*Curriculum.*—Revision of the undergraduate curriculum has occupied much of the time and thought of the faculty. The aim of this curriculum, in line with national nursing developments pursuant to the study of nursing schools by the Committee on the Grading of Nursing Schools, is that of adjustment. Keeping this in mind, attempt has been made (1) to bring the nursing curriculum more nearly in line with objectives and trends in other types of education, (2) in so doing to integrate the preventive and curative phases of nursing and to organize the program of studies in such a way as to eliminate unnecessary repetition, and (3) so to emphasize the physical, emotional, and mental factors involved in patient care, affected as they are by such elements as prevailing social and economic influences, that the student may come to have a fairly complete understanding of the entire pattern of her patients' condition and needs.

Among specific items of interest may be: of the present three-year curriculum but 12.6 per cent is devoted to class work, 87.4 per cent being given over to clinical experience, i.e., nursing practice. Greater emphasis has been placed on bedside and less on formal teaching; beginning March 23, 1934, a six-week period of field experience in public health nursing has been given all students; volunteer graduate nursery school workers are assisting in the pediatric departments; class work coincident with the period of experience has been provided in the communicable disease department as had been previously arranged in the tuberculosis, operating room, and public health nursing services; ward libraries (including bibliographies) pertinent to the particular services, have been made available through the graduate nurse staff in most departments for student use; psychology was introduced into the curriculum for students graduating in the fall of 1935; practically complete change from "functional" to "case method" of assignment for students has been effected; a method for recording clinical experience has been developed; and up-to-date outlines of all courses (class and clinical) including objectives, teaching methods, and organization of content have been completed.

Curricula for postgraduates are revised each year in an attempt to offer graduate nurses the opportunities and advantages most needed by members of that group.

In an attempt to provide desired additional experience for graduates of our five-year or other similar courses, a six-month nursing internship, somewhat similar to the postgraduate courses, tho on a higher level, has been initiated.

The greatest need in all curricula at present is a nursing service sufficiently well staffed that students may actually practice the giving of good nursing care. Subsidiary workers have already been added in all associated hospitals to carry non-nursing duties as approved for these workers by the American Hospital Association and the National League of Nursing Education. Three hours of bedside nursing care per patient per day in general medical and surgical wards (three and a half in teaching hospitals) has been estimated as a safe minimum and yet the hours in some of our units have been as low as 1.1 per patient per day.

*Faculty.*—The faculty has maintained steady growth professionally and academically. Distinct improvement has occurred in the academic preparation of the nursing faculty in the various hospitals associated with the school. Incidentally a large proportion of all graduate nurses carry class work at the University. As employment conditions improve, we may expect to find it increasingly difficult to secure and retain qualified personnel at our present salary rates which are lower than those in many parts of the country.

*Students.*—Student enrolment has decreased 12 per cent during the biennium due in part to the facts (a) that no publicity was given to the course for approximately three years, and (b) that students, beginning with the fall quarter 1934-35, have paid their own maintenance during the first quarter. The student group seems on the whole, however, to possess greater aptitude and better capacity for the responsibilities of nursing. A definitely planned orientation program has aided materially in assisting the freshman student to make satisfactory adjustment to her class and clinical program. Actual numbers of undergraduate university nursing students for July 1, 1936, were 232 as compared to 290 on July 1, 1934; of five-year students, 118 as compared to 99; of postgraduates, 21 as compared to 45; and of affiliating students, 96 as compared to 83. The total student group July 1, 1936, was 349 as compared to 418 in 1934. It is interesting to note that in the past four years not one of the five-year students has failed to complete the first quarter of nursing and that only 2 during this entire period have been dropped as not suited to nursing. In spite of the 12 per cent decrease, the student body in our school is much larger than that in 6 well-recognized and recently studied university schools of nursing and it carries a larger portion of the bedside nursing than do the students in these other schools. Incidentally, all of these schools require at least one year of preclinical preparation for nursing.

In so far as numbers are concerned, we may look forward to (1) an increase in five-year students, (2) a possible increase in the three-year students, (3) a decrease in affiliating students as small hospitals tend to close their schools, (4) a decrease in the postgraduate group as employment conditions for graduate nurses tend to improve. Within the past biennium two colleges in Minnesota and a university in a nearby state have developed nursing programs on a collegiate basis. If the University of Minnesota is to continue to attract a high type of applicant for community nursing service, it must eventually establish its student program on an educational rather than primarily a service basis and offer to students a better curriculum than that offered elsewhere. Such a program will probably entail among other things payment by the University for instruction,

payment by the hospitals for nursing service, and payment by the student, as by other students, of tuition.

*Surveys.*—The school has been surveyed twice and approved by the Minnesota State Board of Nurse Examiners. It has also been approved for registration in New York state.

*Charles T. Miller Hospital.*—By suggestion of this hospital no first year students have been assigned there during the biennium, the hospital replacing freshman student service largely with graduate nurses and subsidiary workers.

*Scholarships.*—The Alpha Tau Delta national nursing sorority has established in honor of Esther M. Thompson, class of 1925, an annual scholarship for purposes of study within two years of graduation to be awarded to a graduating member of Alpha Tau Delta who ranks high in scholarship and nursing practice.

*Endowment fund.*—The income from this fund brought Dean-emeritus Annie W. Goodrich of Yale School of Nursing to the campus to give the first Richard Olding Beard Lectureship address, November 24, 1934. Miss Goodrich taught in the school throughout the 1934 fall quarter having approximately 300 nurses registered in her class. Miss Mary Beard, associate director, International Health Division, Rockefeller Foundation, gave the second address of the series October 12, 1935.

*Research.*—The school carries neither personnel nor funds for research. Any study in the School of Nursing proper must be conducted for the most part by a person already carrying a full-time assignment of nursing work except in the case of those on sabbatical leave. There is great need to relieve faculty members, qualified to do research in nursing, of some of their routine duties that more effective and scientific study may be made in this field of education.

Respectfully submitted,

KATHARINE J. DENSFORD, *Director*

### PUBLIC HEALTH NURSING

The following report is for the curriculum in Public Health Nursing in the Department of Preventive Medicine and Public Health during the biennium 1934-36.

	1932-34	1934-36
Total enrolment, including Summer Session .....	247	456
Students earning degrees .....	24	27*
• Students earning degrees with distinction .....	3	5
Students earning certificates in public health nursing .....	51	69*

\* Pending final spring reports.

The passage of the Federal Social Security Act and the appropriation of federal funds for the promotion of public health services and the better training of public health personnel are evidence that public health and public health nursing are steadily achieving important places in national thinking and planning. An increased demand for well-qualified public health workers is imminent. The University of Minnesota shares in the responsibility of meeting this demand: first, because since the Department of Preventive Medicine and Public Health was first organized, it has served as a source of supply for public health nurses in many parts of the country; and secondly, because this University has been chosen by the United States Public Health Service to serve as a training center for public health personnel and has received financial aid to this end. Study stipends for the spring term of 1936 have been granted to forty-one public health nursing students from eight different states and this number will doubtless be increased during the sum-

mer term. Admission standards for these students are being maintained as for all other regular students. District health units, established and supplied with trained personnel, offer encouraging promise for our continuing development of the student training fields in rural nursing.

The baccalaureate degree has become the goal for the professional preparation of public health nurses, and the certificate in public health nursing has been discontinued for new students who entered in the fall of 1935.

The placement of students has continued in a splendid way. Of the 69 students who received their certificates in public health nursing in this biennium, 58 have been placed in permanent positions, 2 continue as students, 1 is ill, 2 are married, and the placement of 6 is pending. Of those who have received their degrees, 20 have been placed in permanent positions, 1 has married, and the placement of 6 is pending.

Ten foreign students on Rockefeller Foundation fellowships have been sent to Minnesota to study rural public health nursing. One of these is a Spanish student who has had her entire period of study at this University. More students are to be with us in the summer of 1936.

This department has experienced a steady and marked increase in enrolment. This condition has put special strain upon our practice fields, in both the public health and the social agencies. Every effort must be made to safeguard the quality of this supervised field practice, since field practice is fundamentally an important part of the program of preparation for public health nurses. Our affiliating agencies have indeed been co-operative at all times. During this biennium the Infant Welfare Society and the Visiting Nurse Association of Minneapolis have amalgamated and are now called the Community Health Service; this more completely unifies our urban field. It is with this association that we secure our basic field training in urban public health nursing experience for our students. Supervised student experience in school nursing and rural nursing is secured through affiliation with carefully selected school and county nursing services in the Twin Cities and rural areas. There is need for developing a teaching program for students with the official city health department of the Twin Cities.

Respectfully submitted,

EULA B. BUTZERIN, *Director*

## UNIVERSITY OF MINNESOTA HOSPITALS

I present the following report of the University of Minnesota Hospitals for the biennium 1934-36.

*In-Patient Department.*—The number of patients admitted for the year 1934-35 was 8,860 and for 1935-36, 8,496. The decrease was due to the reduction in number of Health Service patients from 1,411 in 1934-35 to 1,074 in 1935-36. The total number of days of hospital treatment aggregated 128,681 as compared with 118,831 the previous year, an increase of 9,850 patient days.

The average number of days per patient stay in the hospital for 1935-36 is 15.1 as compared to 13.3 a year ago. Deaths for the past year numbered 479 as compared with 435 for the year preceding. The percentage of post-mortems obtained for 1935-36 was 63.3 per cent and for 1934-35, 69.2 per cent. The daily average number of patients for 1935-36 was 353 as compared with 324 for the previous year. The highest daily census in 1935-36 was 391 as compared with 380 for the previous year. The surgical operations performed during the year aggregated 5,958 as compared with 5,202 a year ago.

TABLE I. COMPARATIVE TWELVE-MONTH REPORT OF  
IN-PATIENT DEPARTMENT

	1934-35	1935-36
<b>Total patients admitted</b>		
County .....	4,608	4,700
Health Service .....	1,411	1,074
Private .....	650	663
Per diem .....	886	843
Free		
Eustis .....	380	393
Teaching and research .....	176	187
Charity .....	417	395
Staff .....	332	241
Total .....	8,860	8,496
<b>Total days hospital care</b>		
County .....	77,306	86,486
Health Service .....	6,451	5,845
Private .....	5,744	6,560
Per diem .....	9,244	9,397
Free		
Eustis .....	10,330	10,524
Teaching and research .....	2,467	2,678
Charity .....	5,140	5,142
Staff .....	2,149	2,049
Total .....	118,831	128,681
<b>Average days per patient</b>		
County .....	16.8	18.3
Health Service .....	4.5	5.5
Private .....	8.8	9.9
Per diem .....	10.5	11.6
Free		
Eustis .....	27.2	26.8
Teaching and research .....	14.0	14.3
Charity .....	12.3	13.0
Staff .....	6.5	8.5
Total .....	13.4	15.1
Highest daily census .....	380	391
<b>Daily average number of patients</b>		
County .....	211.7	236.9
Health Service .....	23.0	21.1
Private .....	15.7	17.9
Per diem .....	25.3	25.7
Free		
Eustis .....	28.3	28.8
Teaching and research .....	6.7	7.3
Charity .....	14.0	14.0
Staff .....	5.8	5.6
Total .....	325.5	352.5

*Out-Patient Department.*—The number of visits to the Out-Patient Department aggregated 92,626 in 1935-36, an increase of 5,245 over the 87,381 visits of 1934-35.

*Financial.*—An examination of Table II reveals a net operating balance of \$2,312.27 for 1935-36 as compared with an overdraft of \$5,538.82 for the previous year. There was an increase of 5.4 per cent in the operating cost of the hospital for 1935-36 over 1934-35 and an increase in patient days of 8.3 per cent and in out-patient visits of 6 per cent for the same period. The per capita diem cost based on charging against the in-patients the full cost of maintenance excluding the Out-Patient Department for 1935-36 was \$4.15 as compared with \$4.24 for the previous year. The cost per out-patient visit for 1935-36 was \$1.15 as compared with \$1.17 for the previous year.

TABLE II. STATEMENT OF INCOME AND EXPENDITURES

	1934-35	1935-36	INCREASE	PER CENT
Cash balance beginning of year .....	\$ 35,034.92	\$ 13,622.99		
Income—County .....	340,580.70	381,339.34		
Eustis Fund .....	40,000.00	40,000.00		
Pay services .....	144,380.71	153,301.01		
Other .....	59,850.46	71,265.53		
	\$619,846.79	\$659,528.87		
Expenditures .....	606,223.80	639,115.44	\$32,891.64	5.4
Cash balance—end of year .....	\$ 13,622.99	\$ 20,413.43		
Obligations .....	19,161.81	18,101.16		
Final balance .....	\$ 5,538.82*	\$ 2,312.27		
Salaries .....	\$290,649.69	\$311,026.14	\$20,376.45	7.0
Expense and equipment .....	296,766.32	305,993.97	9,227.65	3.1
Fuel .....	18,807.79	22,095.33	3,287.54	17.4
Total .....	\$606,223.80	\$639,115.44	\$32,891.64	5.4
Patient days .....	118,831	128,681	9,850	8.3
Out-patient visits .....	87,381	92,626	5,245	6.0
Division of expenditures				
Out-Patient Department .....	\$102,200.00	\$105,800.00		
In-Patient Department .....	504,023.80	533,315.44		
Cost per out-patient visit .....	1.17	1.15		
Cost per patient day .....	4.24	4.15		

\* Overdraft.

*General remarks.*—It may be observed that in the in-patient service, the largest number of hospital days care ever given by the hospital was during the year 1935-36. During this year the Out-Patient Department also experienced the greatest number of patients' visits in its history. The waiting list has been reduced from 742 on July 1, 1935 to 626 on June 30, 1936.

The laboratory and X-ray services of the hospital have increased much beyond the proportionate patient admissions during the past year. For the year 1934-35 the X-Ray Department gave a total of 20,768 services; for the year 1935-36, 24,941. Likewise the laboratory of the In-Patient Department gave 83,411 services as compared with 68,755 for the previous year.

TABLE III. COMPARATIVE REPORT OF OUT-PATIENT DEPARTMENT

CLINIC	NEW PATIENTS		REVISITS		TOTALS	
	1934-35	1935-36	1934-35	1935-36	1934-35	1935-36
Admission .....	5,724	5,153	.....	.....	5,724	5,153
<b>Medicine-</b>						
General .....	567	655	17,278	19,322	17,845	19,977
Cardiac .....	515	503	1,540	1,600	2,055	2,103
Chest .....	240	244	2,836	3,474	3,076	3,718
Gastrointestinal .....	813	1,029	6	15	819	1,044
Metabolism .....	117	137	668	656	785	793
Neurology .....	813	875	1,299	1,474	2,112	2,349
Skin						
"L" Clinic .....	142	115	6,538	6,125	6,680	6,240
Dermatology .....	854	824	2,935	3,505	3,789	4,329
<b>Surgery</b>						
General .....	2,066	2,110	7,562	7,837	9,628	9,947
Genitourinary .....	443	513	1,883	2,235	2,326	2,748
Goiter .....	187	170	650	529	837	699
Reconstructive .....	76	68	248	311	324	379
Tumor .....	529	540	2,658	2,734	3,187	3,274
Gynecological .....	22	47	750	729	772	776
Orthopedic .....	644	597	1,191	1,603	1,835	2,200
Urology—female .....	330	246	940	836	1,270	1,082
Ear .....	562	570	1,793	2,239	2,355	2,809
<b>Eye</b>						
General .....	1,744	1,472	1,975	2,326	3,719	3,798
Refraction .....	818	963	120	53	938	1,016
Nose and throat .....	1,262	1,132	2,348	2,814	3,610	3,946
Obstetrics .....	329	364	2,047	1,884	2,376	2,248
Gynecology .....	1,214	1,220	4,402	4,448	5,616	5,668
Pediatrics .....	1,174	1,103	3,880	4,440	5,054	5,543
Nutrition .....	170	173	392	391	562	564
Dental .....	35	58	52	165	87	223
	21,390	20,881	65,991	71,745	87,381	92,626

The Physical Therapy Department showed a slight decrease in the number of services: 11,046 being the number of services for the year 1934-35, 10,570 for the year 1935-36.

An increase both in the number of patients treated and the number of services given was noted by the X-Ray Therapy Department: 1,721 patients with 5,020 treatments for 1934-35 and 1,923 patients with 5,785 treatments for 1935-36.

On the first of September a new ward for the accommodation of psychopathic patients will be completed with a complement of 37 beds. Formerly these patients were not eligible for care in this hospital. The date for the opening of this ward is not known because funds have not as yet been provided for its maintenance and operation.

During the year the hospital added the service on fever therapy. It has been functioning since February 26, 1936. Altho this form of treatment is still considered as more or less experimental, certain patients experience remarkable benefit from it.

The educational and research activities carried on in the hospital in co-operation with the Medical School, School of Nursing, College of Pharmacy, and others have continued and increased somewhat during the past two years. This important part of our work contributes to the training of physicians, dentists, nurses, social workers, technicians, dietitians, and others. The time and expense devoted to this is considerable but is well justified as a contribution to a higher type of professional service supplied for the people of the state. The best of patients' care is necessary in order that the proper teaching of the professions concerned be carried on in an approved manner. The hospital makes every effort in its care of the sick to train its people in such a manner that their practice in later life will reflect creditably on the hospital and the University.

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 1934-36.

*Service to patients: medical social case work.*—During this two-year period the department had an average of 7 social workers and rendered medical social treatment to 3,024 patients. These patients fall into three groups depending upon the causal relationship between sickness and environmental maladjustment, and the responsibilities of nonmedical and medical social agencies participating in the patient's care.

Intensive cases are those in which the patient's medical condition is complicated by medical social problems, the treatment of which depends largely upon medical and social planning. Nearly all such patients are referred to the hospital social worker by the physician. Slight service cases are those in which the social problems are less serious, or even nonexistent. But without help in making the facilities of the hospital available to the patient through temporary arrangements to his advantage, he would not be able to carry out medical recommendations, or perhaps even receive the recommendations, for in some instances he would be lost to the hospital. Steering cases are those which are sent to the hospital by nonmedical social agencies, who usually give social history and, if necessary, financial assistance at the time of admission. These agencies desire information periodically as to the patient's condition and recommendations for his care.

The following figures group these types of service:

	INTENSIVE	SLIGHT SERVICE	STEERING	TOTAL
1934-35 .....	323	869	349	1,541
1935-36 .....	417	796	270	1,483

A comparison of the second year with the first shows an increase of 94, or 29.10 per cent, in intensive cases; a decrease of 73, or 8.40 per cent, in slight service cases; and a decrease of 79, or 22.63 per cent, in steering cases. These figures are not entirely significant until considered with the "unrecorded social contacts" discussed later in the report.

The total number of new cases and old cases reopened during the biennium was 2,384, making a monthly average of 99.33 for the department and 14.18 for each social worker.

The sources from which these cases were referred to the Social Service Department were as follows: 890 (37.52 per cent) from the Out-Patient Department physicians; 600 (25.38 per cent) from the hospital physicians; 80 (3.27 per cent) from the hospital administration; 94 (3.89 per cent) from the hospital Social Service Department; 36 (1.45 per cent) from the Department of Nursing. There was also a small group from sources outside of the hospital, these being 93 (3.92 per cent) who were, themselves, patients or relatives of patients; and 591 (24.54 per cent) from other social agencies.

The total number of cases carried each month averaged 418.87, or 59.83 for each staff member. These figures are nearly constant with those of the previous biennium which gave a total monthly average of 438.7, or 58.6 for each staff member. This is the maximum which can be carried effectively in relation to the far greater number of patients dealt with through our secondary function, that of participation in the social elements of hospital and clinic care for a large number for whom no case work is attempted.

*Unrecorded social contacts.*—This secondary function of participation in the social care of certain groups of patients generally applies when no more than two such services are necessary for the same patient. The following tabulation shows the increase in these services.

SERVICES	1934-35	1935-36
Referred by the University Hospitals regarding fees .....	313	195
Discharge arrangements for hospital patients .....	3,626	3,498
Reports to other community agencies .....	678	1,148
Patients directed to other agencies or hospitals .....	154	249
Explanations and instructions to patient or his family (chiefly clinic)		
By conference .....	2,175	2,540
By letter .....	685	889
By visit .....	48	3
Board and room during clinic attendance* .....		1,831
Transportation* .....		1,031
<b>Total</b> .....	<b>7,679</b>	<b>11,384</b>

\* Grouped with slight service recorded cases until July, 1935.

In 1935-36 our total number of unrecorded services totaled 11,384 which gives a monthly average of 948.66, or 135.52 for each social worker. This is an increase of 48.25 per cent over 1934-35. The total of these services for the two-year period is 19,063, making an increase of 56.49 per cent over the preceding biennium. We are not at all proud of this increase. Indeed we regard it with apprehension because it threatens the quality of all our work to be obliged to serve such large numbers in this way.

*Educational services.*—Responsibility for the supervision of medical social work students has continued, the department taking more graduate and fewer undergraduate students. During the year 1934-35, we averaged five students each quarter except during the summer when it is impossible to offer field work; but in 1935-36 we averaged only 3.66 students due to the loss of experienced staff workers who accepted positions elsewhere. Increased obligation to the medical social work students made it necessary last year to drop the course given for nurses. Three lectures were given to help bridge the gap this year.

Respectfully submitted,

FRANCES M. MONEY, *Director*

## THE SCHOOL OF DENTISTRY

*To the President of the University:*

SIR: I submit the following report of the School of Dentistry for the biennium 1934-36.

The School of Dentistry has continued its policy, which we believe is educationally and economically sound, of offering to well-prepared applicants a course in dentistry adequate to prepare them to engage in the independent practice of dentistry. Not radical changes but steady improvements have been made in the methods of teaching and in the content of courses. The rapid progress in the science and practice of dentistry requires that the courses of instruction in both the technical and clinical branches be constantly revised; and the faculty, composed largely of part-time teachers, contribute much of practical value from their experiences in practice.

The dental examinations of school children in Minnesota and other states clearly indicate that in the future more attention must be given to children's dentistry. Dental caries is most prevalent beginning with the deciduous teeth and continuing to the ages of 14 to 16 when the permanent teeth are in place. Irregularities of the teeth frequently need treatment during these same years of childhood.

*The curriculum.*—On April 22, 1936, the Board of Regents, by unanimous vote, approved the request of the faculty of the School of Dentistry that beginning in the fall of 1937, the students entering dentistry be given the option of a three- or a four-year course; and that in the fall of 1938, the four-year course be required of all matriculants. From 1919 to 1927, the school had a four-year course in dentistry based upon a one-year pre dental course. Since 1927, when the pre dental course was increased to two years, the curriculum has been three years in length. The new plan will provide additional time for courses both in the medical sciences and in dentistry. The change at Minnesota conforms with the educational plan of the American Association of Dental Schools and will meet the requirements of a number of states and of Canada where applicants for a license to practice dentistry must be graduates of a school of dentistry requiring a 2-4 course of instruction. The development of dental education at Minnesota is shown in the table on page 218.

*Students.*—The School of Dentistry enrolls students from about twenty states and several foreign countries, notably Canada, Norway, Sweden, and Australia. The 94 pre juniors in 1935 had taken their pre dental work at 31 different institutions.

	1934-35	1935-36
Registration in School of Dentistry .....	283	294
Graduates .....	71	68*
Registration in School for Dental Hygienists .....	66	74
Graduates .....	16	16*

\* Does not include any who may graduate during the summer of 1936 or in December, 1936.

*Equipment and library facilities.*—Equipment needed for the laboratories and the clinic has been maintained in good order and some additions made as needed. The library now contains essentially all the up-to-date books and current literature on dentistry which are needed for student use.

The clinic, which registers about 7,000 patients annually, serves the purpose of training students in the clinical branches of dentistry and also renders a high-grade dental service at low cost to patients unable to go to private offices. In this respect, the clinic makes a distinct contribution to the health and welfare of a large group of people.

RESUMÉ OF DEVELOPMENT OF DENTAL EDUCATION AT THE SCHOOL OF DENTISTRY, UNIVERSITY OF MINNESOTA

DATE	PREDENTAL RE- QUIREMENTS	LENGTH OF COURSE, YEARS
1885-88	Established as department in Minnesota Hospital College in Minneapolis .....	Grade school 1 or 2
1888-92	Acquired by University; located at Fifth Street and Ninth Avenue So., Minneapolis, Minnesota .....	Grade school 3
1892	Moved to the campus in building now occupied by the College of Pharmacy ....	Grade school 3
1896-99	.....	Two years high school 3
1900-16	In 1912 moved into building now known as Wesbrook Hall.....	High school 3
1916-19	.....	High school 4
1920-26	.....	One year college 4
1927-36	1932 moved into Medical Sciences Building .....	Two years college 3
1937-38	.....	Two years college Option of taking 3- or 4-year course
1938	.....	Two years college 4
1919	Course for Dental Hygienists for young women added as part of the School of Dentistry .....	High school 2

*Enrolment and Graduates*

Highest enrolment 1923-24 .....	406
Present enrolment 1935-36 .....	294
Total graduates to date:	
Doctors of dental surgery .....	2,571
Graduate dental hygienists .....	250

*School for Dental Hygienists.*—The demand for competent young women graduates of the two-year course for dental hygienists continues; and, we believe, fully justifies its existence. Most of the graduates engage in educational work in the public schools and hospitals, or practice in association with a dentist.

*Research.*—The faculty members have been able, with limited financial assistance from university funds, to continue a number of projects. The University Relations Committee, together with the Minnesota State Dental Association, recently issued a report covering a study of the economic conditions of dentists in practice in Minnesota, giving valuable data as to their distribution in relation to the population of the state and their gross and net incomes, all with the intention of having data available for prospective students of dentistry.

Another research problem is the study of the causes and the prevention of the resorption of roots of teeth in the mouths of individuals who have had orthodontic treatment or who may have had this condition arise from other dental services.

The study pertaining to the cause and remedy of dental caries, the most prevalent of all dental diseases, is being continued.

The value of dentifrices for the use of patients was studied by a clinical survey involving the observation of 600 patients in the clinic over a period of six months in an effort to determine the relative value or effects of various types of dentifrices.

Respectfully submitted,

W. F. LASBY, *Dean*

## THE COLLEGE OF PHARMACY

To the President of the University:

SIR: The following report covering the period from July 1, 1934 to June 30, 1936 is submitted.

*Standards.*—Altho the standards of the college were not increased during the biennium, they were not lessened because the minimum four-year course established in 1926 was strengthened in a number of respects. The courses in dispensing, pharmacognosy, history of pharmacy, drug plant cultivation, and pharmaceutical chemistry were somewhat augmented and brought strictly up to date, to conform as far as possible to the new and higher requirements of the eleventh revision of the *Pharmacopoeia* and of the sixth revision of the *National Formulary* which became official on June 1, 1936.

Another significant trend toward higher and stricter pharmaceutical educational standards is found in the conviction on the part of the three most powerful and active national associations, that pharmacy itself must become more aggressive toward establishing more adequate standards. On the basis of that conviction, the American Pharmaceutical Association, the American Association of Colleges of Pharmacy, and the National Association of State Boards of Pharmacy have created a national pharmaceutical educational council composed of representatives from each of the three associations. It is now at work formulating higher standards to be observed by all colleges of pharmacy desiring recognition. While this may seem like dictation and outside interference with the administration and administrative policies of the colleges or the universities of which they are units, some justification can be found for the creation of such a body as the council. Its purpose is to study the scope and standards of professional pharmaceutical education and to advance it to a point of parity with the educational standards of other professions. The conviction and forces that called the council into being are strictly of pharmaceutical origin and are now being exercised and enforced by pharmacy itself because many of its leaders have lately regarded the colleges of pharmacy collectively as too slow in meeting the educational and competitive demands of the day. I should not be surprised if this council soon establishes educational requirements beyond those of the present, which they will enforce upon the colleges in the interests of those who need pharmaceutical service.

*The five-year course in pharmacy.*—On November 6, 1935, the faculty of the College of Pharmacy definitely recommended to you the advancement of the present four-year course to five years.

There is no question about the upward tendency of pharmacy. The commercial invasion has not affected its scientific and professional status but only the functional aspect represented by so many commercialized drug stores. Because of their neglect of pharmacy, their emphasis upon trade, and their glitter and ostentation, some persons reach the erroneous conclusion that this kind of drug store represents pharmacy. Against such opinions can be arrayed the judgments of well-informed and fair-minded persons who see in the situation a justification to help pharmacy rather than to condemn it. Colleges of pharmacy should have no interest in the overcommercialized drug store. Their responsibility is to foster the kind of education and training that will attract to pharmacy only those recruits who aspire to a strictly professional practice. Some colleges must lead in this respect. This college has been a leader and I sincerely trust it may continue to be because the public has a right to expect continual improvement in the service

which the state makes possible through the University. Pharmaceutical service does not include trade practices. It is the duty of the colleges of pharmacy to emphasize, through adequate courses for the preparation toward professional practice, the professional and health aspects of pharmacy.

No adequate reason exists, in my judgment, why pharmacy, in the interest of public health, should not be placed upon the five-year course plan. I am, therefore, hoping you will soon approve the recommendations made to advance pharmacy one year beyond its present minimum four-year course.

The new revisions of the *Pharmacopoeia* and *National Formulary* represent the considerable development and progress made during the past decade. The standards of these two fundamental pharmaceutical and medical guidebooks have been much advanced and will necessitate strengthening our technical courses in appreciable degrees. The three years which we now devote to technical work are already overcrowded; students are carrying too many credits per quarter. It will be difficult to add to this student load and to the concurrent faculty load without creating a dangerous tendency toward inferior work and inferior standards.

During the biennium considerable advancement has been made toward stricter pharmacy laws and their enforcement. The Federal Pure Food and Drug Law has been under severe criticism, especially during the last two years, because of its inadequacy to meet the needs of the advancing age. This federal law and similar state laws will unquestionably be drastically strengthened in the very near future and that in turn will call for a strengthening of the courses in chemistry, pharmaceutical assay, biological assay, and pharmacopoeial testing in the College of Pharmacy.

The American Association of Colleges of Pharmacy required its member colleges to establish a minimum four-year course not later than January 1, 1932. All member colleges complied except those in the state of New York and they have now realized that they cannot afford to remain out of the onward procession of advancement and so will shortly comply. The leading members of the association realize that the minimum four-year course is inadequate in the light of the educational requirements of other and less responsible professions, but these members are still in the minority. They are persisting in their advocacy of standards commensurate with those of other professions. They are looking to us to show the way again as we have done in the past. We were the first to advance the standard two-year course to three years and later the standard three-year course to the present four-year course. That is another reason for urging the acceptance of our recommendation.

The College of Pharmacy can never do its best work until its requirements and standards are equalized with those of the other colleges serving the state through their respective professions. The disparity between the instructional and graduation requirements of the College of Pharmacy and those of other university colleges should have early consideration. The practice of professional pharmacy involves as much personal responsibility and legal liability as any other profession and much more than most of them. This viewpoint is no longer contradicted by medicine—the only profession which opposed it until recently.

*Graduate work.*—Graduate work in the College of Pharmacy was impaired until the current year by an insufficient personnel in the Department of Pharmaceutical Chemistry. The addition of Ole Gisvold to the department has improved the situation. Graduate work will continue to suffer, however, until more adequate room is provided for the work of pharmacy in its undergraduate and graduate divisions. The equipment for graduate work is tolerable but the space and general

laboratory facilities are far from adequate. There is urgent need of a larger building for pharmacy.

The Minnesota State Pharmaceutical Association continued its gift of a graduate fellowship of \$500 annually, but agreed to a division into two equal sums for two fellows. Applications for fellowships are increasing in numbers from good student material.

The college has only one scholarship. It was established many years ago by the Minnesota State Pharmaceutical Association to pay the tuition of the student who has earned the highest rating at the completion of the first two years of technical pharmaceutical work.

*Student activities.*—Student activities have increased over former bienniums. The three fraternities, the sorority, the Wulling Club, the honor society Rho Chi, all co-operated in matters common to them all and fostered activities in their own respective organizations. About one third of the student body availed itself of opportunities to visit pharmaceutical manufacturing laboratories nearby and as far away as Indianapolis.

*Prescription dispensing practice.*—The seniors, under supervision, dispense many of the prescriptions written by the physicians in the Out-Patient Department of the University of Minnesota Hospitals and Health Service. The number is increasing continually and the experience of the senior pharmacists is augmented and enhanced. Prescriptions dispensed the first year of the biennium totaled 59,468. The number of the second year will exceed this total.

*Relations with organized pharmacy.*—These relations continued increasingly and satisfactorily, and have not only kept the college prominently before all fields of pharmacy but have been especially and primarily helpful to the college because of the informative and broadening nature of the contacts.

*Service given outside of the University.*—This service increased somewhat. The demand for digitalis remained about stationary but there was an increased demand for other college products, mostly to help out in emergency cases and to meet physicians' prescription specifications. We supplied to pharmacists small quantities of drugs of our own cultivation.

Mail and telephone requests for aid in prescription difficulties are steadily growing in number. Requests for the analysis of proprietary and suspicious medicines have decreased almost to the vanishing point since we announced a number of years ago that, because of the abuse, such service had to be discontinued.

The departmental library service is increasing. Exhibit service at conventions is growing and so is the service we have been giving for a number of years now to the Interprofessional Relations Committee consisting of physicians, pharmacists, dentists, and veterinarians.

The college gave outstanding aid through Professor G. Bachman to the revision work of the *National Formulary*, sixth revision, and through all members of the staff, directly and indirectly, to the very important and technical work involved in the revision of the *U.S. Pharmacopoeia*. It furnished the major part of the digitalis for the establishment of new digitalis standards for which it was complimented by the USPC Board of Trustees. The college displayed appropriate professional exhibits at the two conventions of the State Medical Association, at the two conventions of the Pharmaceutical Association, at one of the conventions of the State Dental Association, and at several local meetings of physicians and pharmacists, as well as at a number of district meetings of the State Pharmaceutical Association.

The contribution of the college to the success of the annual Pharmacy Weeks of the last two years was large. It consisted of the loan of many medicinal plants of our own cultivation to many pharmacists of the state for window display. A large number of official pharmacognosy specimens, some books, photographs, portraits, and prints of professional pharmaceutical interest were loaned for the same purpose, and a series of ten radio broadcasts were given over WLB with interesting and authentic information about scientific and professional pharmacy.

At his own request, the services of Professor G. Bachman as executive secretary of the State Pharmaceutical Association for about fourteen years came to an end during the biennium. His official connection with the association was of distinct value to the college.

Professor E. B. Fischer gave outstanding service to the objectives of the Plant Science Seminar, a national organization of plant scientists, including many medicinal plant scientists. He was president of the seminar for two years.

The entire staff contributed in large measure to the continuing success of the Scientific and Practical Section of the Minnesota State Pharmaceutical Association. This section is the professional backbone of the association and its influence has penetrated into every country in which scientific pharmacy is known. About 90 per cent of the program of this section is provided by the staff. The section is an unofficial auxiliary of the college and attracts many of the alumni because of the opportunity it affords pharmacists to keep abreast with pharmaceutical progress. Two of the six sessions of the annual conventions are devoted exclusively to the work of the section. The section was established upon my motion and I have been annually elected its chairman for thirty-two years and at the 1936 meeting of the association, I was given the honor of life chairmanship.

*Back to pharmacy movement.*—This movement is gaining momentum. It is a sign of the accelerating separation of professional pharmacy from the dual professional and commercial activities of so many drug stores. One form taken by the movement is the establishment of purely professional laboratories; two additional ones have just been started in Minneapolis. This movement develops from the influence of those colleges of pharmacy which are accentuating the professional nature of pharmacy and which are refusing to give instruction designed to increase the trade activities of drug stores. Physicians are aiding by their encouragement of the movement. Members of our staff have been helpful with suggestions in the designing and equipping of several professional pharmacies.

*Medicinal plant garden.*—Our medicinal plant garden is still the foremost one in the United States, and the drug plant culture is going forward satisfactorily under Professor Fischer's direction both in the plant houses and in the open. The fact that in the two surveys of medicinal plant gardens made by the United States Department of Agriculture ours was each time placed at the head of the list, has been given much publicity. We have had correspondence concerning the garden from India, Germany, Nicaragua, and Manila. The Brooklyn Botanic Garden has just added a small area for the production of a limited number of drug plants. The selection was made from our cultivation lists, garden maps, and cultural directions. I was made a member of the advisory committee of the Brooklyn Botanic Garden, January, 1936.

*Museum.*—The pharmaceutical museum, as yet only a nucleus, had a much greater list of worth-while and representative additions than during any previous biennium. The modest earnings of the Wulling Trust Fund were expended for

historical items, as usual. The principal of this fund was enlarged by a contribution of \$200 from Mrs. Adelle Melendy. Possibly a time may come when the pharmacy budget can allow the expenditure for a number of consecutive years of a small sum annually for enlarging the museum equipment. The museum could be made a very much more valuable educational facility than it now is. The cost of items is rising rapidly and the museum should be developed before prices become prohibitive.

*Research.*—Many colleges of pharmacy have stimulated research and have engaged in it for an appreciable number of years and this work tho uncorrelated, has become so important and voluminous that a Council on Pharmaceutical Research was established for the purpose of co-ordinating, indexing, and publishing references to the research being done currently. It has just issued the second annual volume and the work enumerated is a credit to pharmacy. Uninformed persons have lately claimed that pharmacy was not doing much research. Such a statement is inexcusable because it is not based upon facts. Our college is probably doing more than an average amount of research.

Many years ago, and several times since, I have suggested the appropriation of funds for the publication of our research results. Such funds would do much to stimulate research. We are not doing the amount of research we are qualified to carry on. We have no separate research laboratories and our staff is undermanned. On several occasions I have recommended a university staff of a dozen or more to work exclusively on research and that one of these be assigned to pharmacy. I stated that the University would be justified in establishing such an exclusive research staff and I explained that many manufacturing pharmacists have their researchers, one of them having a staff of over fifty experts. While their work is most excellent and profitable, the motive back of the work is, excusably, commercial. A university staff does not need to work under the stimulus of such a motive. I have not yet given up my conviction that some day universities will appoint such staffs.

*The future of the College of Pharmacy.*—Naturally I am intensely interested in, and anxious about, the future of the college which represents my own personal ideals, standards, and hopes. In the beginning the University was hardly interested in the college which it claimed was foisted upon it by a few pharmacists against the wishes of the majority of the pharmacists. The college was at first a step-child of the University. Most of the other colleges of the University refused to recognize it or to co-operate with it. It was an underdog for many years but finally asserted itself into a less uncomfortable position. If it had not been for the convictions I personally hold and for my championship of what I regard as right, the college would not have survived. It is now regarded as the "blue ribbon College of Pharmacy" in all of the essential respects. Others give me personally the credit for this status. I make no claims except that I have done my work faithfully and in accordance with my standards. Until comparatively recently, my work was not done under satisfying and encouraging circumstances. Altho the college is not yet upon the basis it should occupy, you have given it sympathetic consideration and shown an understanding of some of our difficulties, all with the result that the staff and I have generally felt more comfortable in our work and purpose in the very recent years. Do not understand me as complaining of former presidents. They worked probably to the best of their understanding and under budgetary limitations; I do not question their sincerity. However, the fact remains that other colleges engaged in no more responsible work were developed and advanced over the College of Pharmacy. My own viewpoint is that over-

expansion of some colleges at the expense of others disturbs the equitable and comparative educational relationship which should exist between the various colleges and the professions or social groups which they represent. The various university units cannot and should not be each other's equal except in matters common to all, including especially scholastic standards, but they could be made approximately equal in the ways in which they severally relate to, and represent, the needs of their respective professions. What I mean is illustrated by the fact, on the one hand, that the College of Pharmacy never trained more recruits than were needed (there was never any unemployment among our pharmaceutical graduates), the needed supply having been ascertained annually by a simple survey easily made, and on the other hand by the fact that the graduates do not possess a training commensurate with the scientific development of pharmacy and its collateral fields. The graduates possess only that fullest degree of training possible to give them under the limitations of insufficient quarters, teaching staff, and budget. That they are not inferior to the graduates of any other college of pharmacy does not impair my contention that the state can and should make it possible for the University to provide that degree of education and training in all fields, but especially in the health sciences, that will insure the competency of practitioners to give the citizens the utmost in service made possible by the extensive discoveries and advancements up to the last minute, of the respective callings. Medicine is giving the kind of to-the-last-minute service I have in mind, and for obvious reasons. First is the completeness of medical schools and, second, the development of the many specialized fields, all of which are represented by the schools of medicine. Pharmacy, too, has some specialized fields, but these are not so well covered in the curricula. These should be expanded.

Our own College of Pharmacy could be made a much more complete and ideal school by:

1. Housing it in a well-adapted, sufficiently spacious building.
2. Equipping it adequately.
3. Enlarging the faculty.
4. Expanding the curriculum to cover five years, making it basic for the first three or four years and providing specialized work for the last year or two.
5. Developing the medicinal plant garden.
6. Increasing the facilities for graduate work and research.
7. Adding pharmaceutical clinics or seminar courses for pharmaceutical practitioners.
8. Establishing seminar laboratories where practitioners could work out problems as they arise in practice, under the instruction of faculty members.
9. Adding a theoretical seminar including library research.
10. Restoring courses in chemical and clinical microscopy and urinalysis.
11. Placing the drug and dispensing departments of the hospitals, out-patient, and health service departments into our charge.
12. Transferring the entire Department of Pharmacology of the Medical School to Pharmacy.
13. Increasing the pharmaceutical supply service we now give in a limited way to fifteen or more university departments, by establishing and operating laboratories for manufacturing instead of buying a much larger number of pharmaceutical and other preparations.
14. Restoring on a fee basis, the service which we at one time gave gratis, to meet the demands of pharmacists, physicians, and the public for the analysis and assay of preparations of many kinds.
15. Occasionally exchanging outstanding professors with recognized colleges of pharmacy.
16. Increasing the number of paid experts and special lecturers to instruct the students and faculty in fields or matters relating to pharmacy but not readily available or accessible.
17. Creating means for giving expert advice and aid for a fee to those who want to establish modernly equipped pharmaceutical laboratories, dispensing departments, etc., or who want to remodel their old laboratories, etc. (Demands for such service are increasing, especially from those who open professional pharmacies.)
18. Publishing reports of our research, and articles and papers by the faculty periodically in pamphlet or booklet form.

If the college were expanded in accordance with these recommendations it would only have caught up with what the present should afford. That so far no college of pharmacy has reached that ideal is no good reason why Minnesota should not attempt to reach it soon. Minnesota has led for many years in pharmaceutical education. It is not at all certain that the college can maintain its leadership if it fails to grow and develop beyond its present status soon. Many colleges are far below our rank, but some are quickly approaching us. Some have little excuse for existing. Two have recently gone out of existence temporarily, possibly permanently, and a few have actually deteriorated. The chief reason for this is the number of unnecessary colleges. About twenty-five years ago I advocated a survey or study of colleges of pharmacy with the view of learning whether it would be advisable to consolidate some of them and have a lesser number of stronger regional colleges. Altho no consolidations have resulted, the idea is encountering less and less opposition. In due time ours should become a strong regional college.

*Conclusion.*—In accordance with the university rules my automatic retirement should have begun with July 1, 1935. You and the Board of Regents were kind enough to give me the honor of a year's continuation beyond that date and accordingly my retirement from the University begins July 1, 1936, after an uninterrupted service of forty-four years. I have given a lifetime to the preparation for, and the building up of, the College of Pharmacy. The college has had my continuous interest and work. I have never had a sabbatical because there was never time for one. In the forty-four years, I have never lost a day's work except during this past winter when I became ill for the first time in my life. Since I was called in 1892 to organize and develop the college I have had no other primary interest. I do not mean to say that through this work and devotion toward the development of what I consider to be a worth-while life project, I have acquired any proprietary rights in the college, but nevertheless the college will continue to be part of my life. If the college should ever deteriorate, the hard-earned prestige of Minnesota educational pharmacy will become endangered. This I believe will never happen because I feel that those tangible and intangible things which have given me so much faith in the University of Minnesota will continue, and in that faith I feel certain that the college will continue to prosper under your administration.

Please accept for yourself and for the University my sincere thanks and gratefulness for all the kindnesses and opportunities given me through the many years which terminate with June 30 of this year.

Sincerely yours,

FREDERICK J. WULLING, *Dcan*

## THE COLLEGE OF EDUCATION

*To the President of the University:*

SIR: In reporting for the College of Education for the biennium 1934-36 I shall pass over with brief mention certain steps that have been taken to improve our educational program in this college.

The recession in enrolment that characterized the depression years has ceased and the number of students preparing for educational work is again on the increase.

It is gratifying to report that the employment of graduates has increased during the past two years. The gap between the number of prepared teachers and employment, however, is still sufficient to cause grave concern to all interested in the professional preparation of teachers.

Qualifying examinations, begun in 1932 and reported upon in 1934, have now become an established administrative program for this college.

The educational conferences conducted by the College of Education have continued with ever increasing numbers and interest.

*The five-year program.*—While passing over in this summary fashion certain internal problems of the College of Education, attention may be called to the fact that we are as yet without a satisfactory five-year program for the education of teachers. Upon this problem the faculty have been working for a half-dozen years and are unanimous in the belief that the time has arrived when we should be able to map out five-year programs of training in a considerable number of fields in which our students prepare to work. We have been unable to go forward as rapidly as the need demands because of administrative regulations within the University itself. There is little evidence that these are yielding to the point where the improvement of teacher training can freely go forward at the University of Minnesota. The insistence of the problem, however, will keep it before the University for many years to come and it is hoped that some progress may gradually be made.

*Some larger issues.*—The major part of this report will be concerned with a discussion of certain large issues affecting the education of teachers in the state of Minnesota. This matter was discussed in my report in 1934 under the general heading of higher education in Minnesota. Interest in that report on the part of institutions other than the University of Minnesota made it desirable to expand somewhat the treatment there given. This was done in a paper presented on January 24, 1936, before the annual conference on the education of teachers, held at the University of Minnesota. Representatives of all our higher institutions in the state were present on that occasion and considerable correspondence with presidents of other institutions followed the presentation of that paper. It seems desirable to make the paper a matter of official record and I am accordingly using it as the major part of my report for the current biennium. The paper was entitled, "The Co-ordination of Higher Education in Minnesota."

### THE CO-ORDINATION OF HIGHER EDUCATION IN MINNESOTA

Elsewhere the writer attempted to set forth certain factors that affect the co-ordination of higher education in Minnesota.<sup>1</sup> In that connection conditions

<sup>1</sup> Haggerty, M. E. "Report of the College of Education." *President's Report for the Years 1932-1934*. Bulletin of the University of Minnesota, Vol. 37, No. 50, pp. 250-62. 1934.

were considered in their bearing upon the education of teachers. The discussion did not go much beyond a description of basic factors and the suggestion of certain broad principles of educational organization. Admittedly the education of teachers is but one of the problems of higher education. While, directly or indirectly, it concerns all of the thirty-two colleges in the state, these institutions are, at the same time, interested in a variety of other problems. If anything approaching a co-ordinated program of higher education for the state as a whole is to be considered, all the functions of higher education must be recognized and provided for.

Discussion of such problems flounders in the absence of constructive proposals. A mere recital of existing conditions and the citation of obstacles to organization fail to direct thinking into useful channels. A proposed plan of action is needed for the direction of discussion. By this means ideas may be clarified, community of interests revealed, and all the values of higher education be brought into the pattern of our thinking. It is to serve this dialectical purpose that certain possible arrangements are here suggested. The need is for constructive thinking toward the future and definite proposals may contribute to that end even tho the particular arrangements put forward be rejected in part or completely.

In offering these suggestions the writer wishes it clearly understood that they do not represent any policy of the University of Minnesota as an institution. It may be accepted that the University has no formulated plan for the organization of higher education in Minnesota. It is not known that any other officer of the University would approve the proposals that are here made. Tho these suggestions appear to the writer as educationally sound, it is by no means certain that they will commend themselves to others who are thinking about these problems. The writer as a student of higher education accepts individual responsibility for the suggestions offered because as a citizen of the state he would like to see Minnesota do what as yet no American state has done, namely, create for its people a completely adequate program of higher education.

We should not blink the fact that almost everywhere in America institutions of higher education are adventitiously arranged and that they have lamentably failed to develop economic and co-operative arrangements. Intense competition prevails, and many institutions, proceeding on a purely individualistic program, face hardship and a bitter struggle for existence. At the same time there is an increasing and imperious demand on the part of youth for more education, and deep unrelenting forces in the social order are driving all institutions toward greater co-operation and integration. It would be wise policy on the part of educational leaders to sense this situation and to assume responsibility for its direction before restrictive adjustments are forced under a political leadership.

*The primary need.*—Functional principles for the co-ordination of higher education in Minnesota should arise from the needs of the people and out of conditions as they exist. It is important to stress the purposes of higher education rather than the mechanics of organization. For the present, at least, it would be well to avoid the use of such words as "organization" or "system" since these terms might easily be construed to imply fixed arrangements enforced by legislation. It is doubtful if educational leaders in Minnesota have arrived at a stage of common understanding that would justify legislative action. The need is for a clarification of ideas as to what the state will need in the area of higher education, say, during the next twenty-five years, for a definition of the present and possible functions of existing institutions, and for an exploration of the means by which co-ordination may be achieved on a voluntary basis. Until some agreement

has been reached upon these basic matters, little consideration need be given to legislative proposals. The time for formal action is apparently some years hence.

*The existing institutions.*—It is difficult, of course, to discuss co-ordination without implying administrative arrangements, but it is vastly more important at the present time to clarify the objectives to be obtained than it is to describe an organization pattern. Let us accept at once the idea that any administrative plan is acceptable that, in an economical fashion, will achieve all the purposes of higher education. Conceivably a variety of organization patterns is discoverable. Any plan must take account of the situation as it now exists, and, without destroying any useful institution, and without submerging any genuine value or service, provide a way to the maximum usefulness of existing institutions and of any others that may be created hereafter.

By way of disarming possible fears it may be said that the proposals to be here made contain no real threat to the usefulness of existing institutions. The leader of every college in the state desires that his institution be in a position to render the maximum service to the welfare of the people. A program is needed that will enable each institution to do just this thing.

*The underlying assumption.*—If this general preamble leads us to a common ground, we may proceed to specific problems. Let us begin with a general assumption that is well founded in educational and social trends over a period of fifty years, and that is supported by the current conditions of life in this area. In the future the people of Minnesota will require and will support more in the way of higher education than they have enjoyed in the past. In the future more young people will go to college; curriculum offerings will be more varied, the educational age will be extended to include adults; more money will be devoted to higher education; more buildings, laboratories, libraries, and dormitories will be needed; more and better prepared teachers will be required; possibly new kinds of colleges will be demanded. An inevitable result of this upward surge of educational need will be a demand on the part of the population for better facilities in higher education nearer home than they are now generally provided. A community having a college within a twenty-five or fifty-mile radius will send a larger proportion of its young people to college than will a community less conveniently situated. The truth of this claim is clearly attested by factual studies and leads to a first principle of co-ordination.

1. *A plan should be developed to provide two years of education beyond high school in institutions located within commuting distance of all the people.* In the development of a state-wide plan, studies should be made of the geographical distribution of the population, of its cultural and social interests, and of its economic competence in each geographical area. Every existing institution within the state should be studied with a view to its becoming a regional college providing the two years of work thus indicated. Consideration should be given in this connection to existing junior colleges, to the six state teachers colleges, to the private institutions, and to the University of Minnesota. In so far as their location, adequacy of support, and character of management make it possible, these institutions should be designated as regional institutions in preference to the establishment of new institutions. Where no existing institution is available to serve this regional purpose, new institutions may be considered.

It would be undesirable to force upon any institution this geographical responsibility by coercive legislation. Such an effort might easily do violence to the accepted functions of an institution. The matter should be considered specifically in the case of each institution and acceptance of this function should be voluntary.

It may be pointed out that the type of general education required on a geographical basis is not necessarily that which is now offered in the first two years of existing colleges. Probably something much more akin to what Suzzallo described as education for special intelligence is needed. This matter is in need of extended experimental study. Such a study would open up the whole question of the nature of general education on the one hand, and on the other, it would explore the relation of general education to advanced study and professional education. At the present time this area of educational endeavor is shrouded with ignorance and is the locus of many traditional practices and fixed opinions that may or may not be justified by educational realities.

It has become apparent also that communities desire and need educational services beyond that offered in formal school programs designed primarily for children and youth. Individual education is a lifelong process. In addition to the needs of individuals, the activities of social groups and those of entire communities need the guidance of the educated men and women working in college faculties. These needs are apparent not merely in agriculture and homemaking, where notable services are already a matter of record, but also in business, in government, in music, in art, in health, in science, and learning generally. There is reason to believe that in the future an effective regional college will take account of the needs of adults and of the social enterprises important to its local community and by so doing make learning the real handmaiden of the common life.

2. *A second fact to be recognized is that Minnesota needs professionally trained workers in many fields.* In this respect Minnesota is the center of a region more extended than state boundaries and to some degree it has relations to the nation at large, to the Federal Government, and to industrial and agricultural areas, some of which are far away in other states. In some matters its educational relations are international, extending across either bordering ocean, and north and south beyond the national boundaries.

It is legitimate that the state should provide adequate facilities for educating professional workers, first because it needs such persons to carry on the functions of its life, and secondly because such training provides its young people with the opportunity for individual achievement and social service. The number of recruits annually required in most professional fields is limited. Training requires extensive curriculum offerings with special laboratory, library, and other facilities. In general the period of training is extended as to years and the necessary costs are high if quality is to be secured. One institution is sufficient for the purpose of professional education and it seems desirable to concentrate such training at the University of Minnesota. Such concentration should hold for all workers except those in education. Included among professional fields would be law, business, engineering, agriculture, medicine, dentistry, pharmacy, and all related occupational courses that require similar library and laboratory facilities.

3. *A third important problem to be considered is Minnesota's need for well-educated teachers and other school workers.* Under prevailing conditions the state requires annually a number of new teachers for all types of public schools and for the public and private colleges. Conditions affecting employment of teachers have altered in recent years and during the depression have markedly diminished the number of annual vacancies. There is evidence, also, that the elementary school population reached its peak several years ago and is now diminishing slightly. The high school and college populations are still on the increase and give every evidence of continued growth through the next decade or more.

In addition to the demand for new teachers there is a demand for the up-grading of teachers now in service, a demand that will continue to grow for some years to come. Many of the teachers in Minnesota schools are inadequately prepared for their work. This statement applies generally from the kindergarten to the colleges.

The organization of teacher education in Minnesota is at the present time unsatisfactory. In addition to 74 high school training departments, there are 6 teachers colleges, 14 liberal arts colleges, and the University of Minnesota engaged in the process of preparing young people for teaching. During recent years the number of persons graduating from these several institutions has considerably exceeded the number of new teachers needed. This condition of surplus is likely to continue in the immediate future.

In most institutions in the state provision for the education of teachers is inadequate and there is obvious need for institutional self-examination and restraint in this matter. This deficiency applies to the University as well as to the private colleges and to the teachers colleges. If we really intend to take seriously the possibilities of our public schools as agencies for the promotion of social betterment, we should recognize the almost universal need for more competent teachers and educational leaders. Improvement in this direction is at the present time seriously embarrassed by the multiplicity of agencies engaged in teacher preparation, and by the almost total lack of co-ordination among these agencies. The situation is out of the control of any individual institution, with the graduates of all institutions competing in an open market for the relatively few places available. Under such conditions the incentives to high quality of preparation are seriously restrained and genuine improvement difficult to achieve. The whole matter is complicated in the extreme, but certain directions for improvement may be indicated. There is need for a reduction of the total number of prospective teachers in training, for a better selection of candidates for training, for the enrichment and expansion of the curriculums of preparation, and for an extension of time for most types of workers. The desirable organization for the preparation of teachers in Minnesota is in need of study but it might proceed from the following tentative allocation of functions to the several types of institutions now engaged in the field.

In the first place the high school training departments now subsidized by the state should be abandoned. With the abandonment of these training departments, the education of teachers for the rural schools should be accepted by the state teachers colleges and should be undertaken nowhere else. These colleges should also engage in the education of teachers for the elementary schools, extending as rapidly as employment conditions make possible the training program from two to four years. Attention should also be given to the possibility of using these teachers colleges as regional junior colleges.

The training of high school teachers, supervisors, school executives, and special school employees should be concentrated at the University of Minnesota. In building up its professional schools education should profit by the experience of the older professions—law, medicine, engineering, and the ministry. The trend in all these fields has been to abandon separate schools and to develop professional education in connection with the great universities. In these large institutions, with their varied departments, laboratories, libraries, and clinical facilities, are resources for the education of teachers that can be duplicated in other institutions only at a cost that is in most cases prohibitive. These resources should be mobilized for the training of educationists just as they have been for the educa-

tion of doctors, dentists, and engineers. Certainly the facilities of the University should be utilized to their capacity before duplication is undertaken elsewhere.

Improvement in teacher preparation will be slow. It will require the co-operation of all the colleges involved, of the State Department of Education, of superintendents of schools, and of boards of education, but some factors in the situation indicate that progress may be more rapid than is now anticipated. It is recognized that if the University is to perform its full obligations in this matter, certain internal adjustments and improvements will be needed.

Since they already maintain the needed academic departments, such liberal arts colleges as are adequately staffed and otherwise prepared to offer equal opportunities to their students, including facilities for practice teaching, and that have adequate library and laboratory facilities might engage in the preparation of high school teachers. They should not engage in the preparation of educational executives or special types of school workers. No institution that is not able and willing to provide entirely adequate facilities for the purpose should claim the right to prepare teachers for the public schools. The place of the public schools in a modern democratic state is too vital for careless treatment.

4. *The fourth matter relates to the need for extended general education.* Minnesota has long had, and is likely to have to a greater degree in the future than in the past, a need for educational institutions devoted to general education to the extent of four years beyond high school graduation. It may be expected that an increasing number of young people will seek such extended general education as a preparation for certain of the professions such as medicine, law, the ministry, and possibly education, and that others will follow such a program for its general values in life regardless of vocational choices. Such education is now provided in fourteen private institutions within the state and at the University of Minnesota. Consideration should be given in terms of present and probable future needs as to the desirability of retaining all of these institutions on their present basis, and also as to whether or not it is desirable that any additional institutions in this general field should be established.

Investigation should be undertaken also to determine whether or not some or all of the four-year privately controlled institutions might not be designated as regional junior colleges. If this were done, the probable functions of such institutions would be to provide educational services as follows:

- a. Junior college education on a regional basis.
- b. Preprofessional preparation in those fields for which each institution is equipped.
- c. Extended general education to the four-year level of such institutions as can and will provide adequate facilities for this purpose.
- d. Preparation for graduate study in such fields as institutional facilities make possible.
- e. Occupational training in such fields as the purposes and resources of the institution indicate is desirable.

5. *The people of Minnesota need and require for themselves certain forms of religious education.* It is a question as to the degree to which such education can be provided on the basis of public support. The use of public funds to provide instruction in sectarian matters is definitely excluded by American tradition and probably by the Constitution. Certainly there would be social resistance to the control of a public educational institution by a church or private foundation not responsible to the state.

Religion, however, as a human experience transcends sectarian creeds and particular confessions of faith and there seems no reasonable constitutional limitation to providing at public expense, on an elective basis, a certain amount of

religious training for young people. Such training can be offered independent of church organizations as such, just as political science is taught in all universities independent of political parties or the political affiliation of instructors. There is no reason in educational theory, and probably none in constitutional provisions, why religion as a body of knowledge should not stand on the same ground. The inclusion of religious subjects on such a basis would enrich the curriculum of state institutions and give to thousands of students a more profound understanding of life and a better rounded preparation for it. Probably the most serious and effective deterrents to such a program of inclusion are the organized churches themselves.

Should religious education be precluded on constitutional grounds, or on those of general public policy, it would still remain possible that arrangements could be made for religious education by private and church foundations at all institutions including those supported by the state. It would be possible, should these institutions so desire, to credit a certain amount of such training toward collegiate degrees for students who desire to make arrangements for that purpose. In the matter of religious education obviously nonstate-supported institutions may exercise a greater freedom.

6. *Sixth among the problems confronted by higher education is the increasing demand for extended schooling beyond baccalaureate and professional degrees.* Development in this field has been amazing during the past decade. In the main the urge for such training arises from increasing professional demands in education, medicine, business, the sciences, government, and other fields. The educational problems inherent in graduate study are varied and intricate and are in need of exploration and adjustment. In most fields graduate education is expensive, makes elaborate demands for laboratories, libraries, and clinical facilities. Even the best institutions are none too well equipped for the purpose. At the present time the state needs only one institution for this purpose and the University of Minnesota is clearly indicated as the appropriate agency for graduate study.

7. *Possibly this summary of educational needs falls short of completeness.* Occupational preparation for occupational activity has in many fields become a substitute for apprentice training. The number of occupations thus affected is increasing. There is, for instance, the ever widening array of governmental tasks calling for trained personnel and the constantly multiplying demands in industry and business for better trained workers. Occupational education has never received the consideration it deserves from American education and it would be well for those responsible for higher education to study the possibilities that lie before the colleges in this field. It is possible that an adequate study of the problem of occupational education would indicate the need for the creation of an institution on the collegiate level that would be different in type from any existing institution.

8. *The co-ordination of higher education in the state will not be wholly accomplished by the allocation of special functions to individual institutions.* Quite apart from such allocations arrangements should be developed for utilizing the resources of all institutions in the state for all the students in the state. A special point in this connection can be made of libraries. Every educational institution possesses a library of greater or less extent. In addition there are a considerable number of public libraries in the state and a few under private control not connected with any institution. The building up of these libraries, particularly beyond the point required for elementary college instruction, is an expensive matter, prohibitively expensive in many fields, and at the present time

is inadequately done for the state as a whole. A study should be made of this problem with a view to mobilizing all library resources for the benefit of all people in the commonwealth and to the end that any student in any institution may have access to all library facilities within the state. A first step in this direction would be to provide common information as to library holdings to all institutions. Such an arrangement would facilitate borrowing, and the migration of students to the institution where the library was suitable to their needs. If the present interlibrary arrangements for borrowing copies are inadequate, these should be improved. More important, however, would be the growth of a common understanding and agreement as to the development of special library facilities in each of the several libraries of the state. Expensive duplication of books useful to a limited number of readers should be avoided. Certain institutions might well be encouraged to expand their facilities in some fields while depending upon other institutions for service in other areas.

9. *What is possible and desirable in reference to the pooling of library facilities for the state as a whole is, to a somewhat less extent, possible for the common use of laboratories and special equipment, particularly the kind of equipment needed for investigation and research.*

Such an arrangement might conceivably be a part of a general understanding that particular institutions would stress certain fields of learning rather than attempt duplication over the whole range of knowledge. Co-ordination in documentary research as well as in laboratory investigation, if properly worked out, would not merely be economical but would stimulate and promote scholarly investigation in all institutions.

10. *More important than the state-wide mobilization of physical resources is the development of interinstitutional relations involving the faculties of existing institutions.* Already we have a few illustrations of instructors on the staff of one institution offering courses in a nearby institution. The practice could be extended to include not merely supplementary service but the exchange of instructors for a term or a year. There would be problems of salary adjustments, of instructional fields more amenable to such exchange activities, and of the personal interests and competence of teachers, but all such problems are soluble if institutions will but set their minds to the task. The result would be an immediate enrichment of the offerings to students. More important than this would be the development over a period of years of a common understanding of institutional purposes and activities and a cross-fertilization of educational ideas and practices.

11. *Early in this discussion it was pointed out that progress is possible without resort to legislation.* It is probably undesirable at the present time to seek legislation covering any of the matters of institutional co-ordination. A proper restraint on the part of individual institutions and a willingness to enter into a co-ordinated state program would obviate the necessity for restrictive legislative action until such time as a more wholesome common understanding had developed. In lieu of immediate formal action it is desirable to set up on a voluntary basis a state council for higher education. The purpose of such a council would be deliberative and exploratory. In such a council should be represented all important educational interests of the state. It should include representatives of each institution of higher learning in the state and also representatives of special departments and colleges within institutions that have to do with important educational needs. For the University of Minnesota the representation might well include, in addition to the president, individuals able to speak for such special educational interests as agriculture, business, education, dentistry, liberal

arts, law, medicine, technology, and the graduate study. The council should include a representative of the State Department of Education.

The primary function of such a council would be to engage in a long-time study of the problems of higher education within the state. Inevitably such a study would involve a series of factual investigations and might in time lead to the development of a set of organization principles acceptable to all interested parties. For the present such a council should avoid any attempt to erect administrative control or to develop proposals for legislative action. The sound basis for an effective program of co-ordination must be laid in a common understanding of the needs of the people of Minnesota, in an imaginative conception that includes provision for the whole commonwealth, in a genuine recognition of the rights of minorities to provide the kind of education they desire, and in a conscientious institutional self-restraint that would confine each institution to the type of service it is genuinely fitted to render.

12. *In these times when so many forces are driving toward a uniform pattern of life, it is important to protect both individuals and institutions against the leveling effects of mass movements.* Educational institutions could not escape, if they would, powerful influences in current American life that tend to make them all alike in patterns of curricula, in standards of achievement, in institutional mores, in similarities of product. Habits of social imitation, practices of accrediting, an ever increasing mechanics of institutional articulation, and an irresistible tendency to centralized administration all operate to shape our colleges into uniformity—too often the uniformity of mediocrity.

But, however important it may be to achieve a common pattern of ideas as a basis of social understanding and action, it must be kept in mind that the enrichment of life arises from its variety, and that social progress flows from ideas that are new and different. Imagination, variation, individuality are the springs of intellectual and social improvement, and vitality in educational endeavor arises from within individual students and teachers. Co-ordination of educational endeavor is needed, but it is undesirable to describe a single educational pattern for all institutions. Nothing in our present social situation requires a common pattern of education beyond that which is provided in the lower schools and that which is inevitably forced by social pressures. It is of the greatest importance for society that educational institutions should be centers where intellectual and personal excellence is supreme. Such excellence is never the product of legislation nor of supervisory control. It arises when the energies of men are released in response to ideals that arise from within their experiences. Far beyond any need for regulation, or patterns of organization, or systemized administration, the call in Minnesota, as elsewhere in matters of education, is for a more fruitful cultivation of the spiritual life out of which virile institutions grow. At their very best the colleges will do too little as constructive agencies of social progress. It would be folly to create administrative controls or restrictive patterns of activity that would in any way hamper their aspirations to high quality of performance. Because of this the greatest possible freedom and encouragement should be given to every institution to develop individuality both in curriculum and noncurriculum activities. Intelligent experimentation in matters of higher education should be regarded as an evidence of institutional vitality and not as a cause for apprehension. Supervisory and administrative control should be kept at the minimum necessary to secure intelligent co-operation. The now widely employed techniques of institutional accrediting should be studied with a view to replacing all mechanical standards of interinstitutional comity with methods having a more fundamental

educational value. The relation of the colleges to the secondary schools should be further studied with a view to abolishing whatever restrictive influences these higher institutions still exert upon the lower schools. Let it be written in the boldest possible lettering that in all such matters the fundamental basis of co-ordination is not regulation and control but common understanding of the needs of the commonwealth, an educational conscience in institutional leadership that will keep activities and aspirations within an imaginative conception of what is for the highest welfare of the state as a whole, and an unyielding determination on the part of all that each institution shall become the best possible one in the situation peculiar to it.

Respectfully submitted,  
MELVIN E. HAGGERTY, *Dean*

## THE 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 1934-36.

*Enrolment.*—The number of students enrolled in the school continued the increase that was noted for the year 1933-34. A new peak in enrolment has brought difficult problems of adjustment. The teaching load per instructor, already at a high point two years ago, was still further increased. Classes have grown to the limit of the physical facilities. Instructors in elementary courses are conducting quiz sections of from 45 to 60 students as compared with an average class size of 25 in 1923-24. It is undoubtedly possible for an instructor to teach large classes quite as effectively as small ones in some subjects. There is a limit, however, beyond which an increase in the number of students in a class results in a decrease in teaching efficiency. This point seems definitely to have been reached during the past year in the School of Business Administration. If the elementary class sections are increased further, the discussion method of instruction will have to give way completely to the lecture plan and this would certainly lower the standards of instruction. In the advanced courses the lecture method has already been generally adopted because of the large class sections, several of which run well over one hundred students.

If enrolment continues to grow there will have to be additions to the instructional staff at least proportional to the increase in the number of students. If, because of budgetary limitations this is impossible, it will be necessary to limit the enrolment so that the number of students per instructor will not be further increased.

*Curriculum changes.*—During the past two years all students entering the school have been required to take a special examination prepared by a committee of the faculty in co-operation with the Bureau of Educational Research. At present these examinations are being used exclusively for research purposes and do not constitute a part of the student's permanent record. The purpose is to develop an examination that will give evidence of a student's probable ability to carry junior and senior courses. If satisfactory tests can be developed, they will be used first in advising students as to their prospects in the school; those receiving low ratings will be advised not to enter but to seek some other field for which they may have greater aptitudes. It is possible that later these examinations may be used as a basis for the positive selection of students, in case it becomes necessary to limit enrolment.

The senior comprehensive examinations instituted four years ago have been continued. These have had a quickening influence upon scholarship and have served to stimulate members of the staff in devising new methods of instruction and reorganizing the material in their courses.

The prebusiness courses in economics were completely reorganized during the past year in order to bring them more nearly into line with present trends in education at the Junior College level. The series of courses which make up the prebusiness sequence now include: Introduction to Economics, Elements of Money and Banking, and Elements of Statistics in the freshman year, and Principles of Economics and Principles of Accounting in the sophomore year. The change results in a net reduction of five credits in the required prerequisites for advanced

work in the school. This gives the underclass student more time to carry work in other fields, thus tending to broaden his preparatory training.

*Master of business administration degree.*—The faculty recommended the establishment of the degree, master of business administration, and this was approved by the Board of Regents on May 12, 1936. For several years, Harvard, Pennsylvania, Michigan, Stanford, and a few other institutions have been granting this degree to students who complete their professional training in business administration after they have obtained a Bachelor's degree. The Master's degree to be awarded at Minnesota differs somewhat from the others in that graduate work in the fields selected by the student must be completed under the rules of the Graduate School, in which the students will be regularly enrolled. Those who have completed the course for the bachelor of business administration degree at Minnesota will be able to obtain the master of business administration degree after one additional year's work; those entering from the College of Science, Literature, and the Arts or from other institutions with a bachelor of arts degree will normally be required to take two years of work.

*Research and publications.*—The activities of the Employment Stabilization Research Institute were brought largely to completion two years ago. There have been two summaries of the several research projects that were conducted, however: *Balancing the Economic Controls* covers the work of the staff engaged in investigation of the economic causes of unemployment in this region, and *Men, Women and Jobs* summarizes the findings of the study on individual diagnosis and retraining.

The *Financial and Investment Review*, which was developed as a part of the program of the Employment Institute, has been carried on in co-operation with the State Department of Banking. The *Review* has afforded a source of information on bank investments that has been useful to the bankers of Minnesota.

The Index of Production for the Northwest and the Cost of Living Indexes for the Twin City area have been continued and made available to the public through the press.

The research work of the staff received especial recognition in the organization of a research committee by the National Bureau of Economic Research. It is the purpose of this committee, in conjunction with the National Bureau, to examine the major research problems of common interest, to undertake, if possible, one or more co-operative projects of economic research, and to provide a continuing form of organization for the study of economic problems. This committee was formed at the call of Wesley C. Mitchell, director of the National Bureau of Economic Research, and at present includes representatives from the following universities: Chicago, Columbia, Harvard, Minnesota, and Pennsylvania. Already two major co-operative projects have been considered; one dealing with the problems of distribution of income and wealth, and the other with price research.

*Lectures and discussions.*—In addition to the usual series of lectures on economic questions sponsored by the School of Business Administration during the past few years, a special one-day conference devoted to current monetary problems was held on February 6, 1936. Two round-table conferences were conducted, one on the subject of International Monetary Stabilization led by Professor James Harvey Rogers of Yale University, and the other on the Problem of Bank Liquidity led by Charles O. Hardy of the Brookings Institution. The evening meeting was devoted to the Prospects for Inflation in which Professor Rogers, Dr. Hardy, Professor Palyi of the University of Chicago, and Professors Hansen

and Marget of the University of Minnesota all participated. This conference proved to be one of interest, particularly to the bankers of the state.

*Placements.*—The demand for graduates of the school has grown during the past two years, and the proportion of the graduating class that has been placed in permanent positions increased materially. The fact that the Placement Committee has had difficulty in locating suitable applicants for openings would indicate that the majority have secured satisfactory positions. The demand for students who have taken graduate work has also increased. This demand comes largely from governmental departments and agencies, but business concerns are also adding doctors of philosophy in economics to their staffs. These persons are engaged in statistical research and other types of work that involve economic analysis.

Respectfully submitted,

R. A. STEVENSON, *Dean*

## THE GRADUATE SCHOOL

*To the President of the University:*

SIR: I submit my report of the Graduate School for the biennium 1934-36.

Tables I, II, and III show the steadily increasing registration of students interested in advanced work.

*Registration and degrees.*—If numbers were the significant criterion these totals would give the Graduate School of the University of Minnesota high national ranking. More significant are the figures that show the numbers achieving the Master's and Doctor's degrees. An even more revealing index of international status is the list of foreign countries from which the Graduate School draws students (Table IV). A repetition of the tables once included of states of the Union and American institutions would show how the opportunities for scholarly work at Minnesota have made a national appeal far beyond the boundaries of the state or the northwest regional area. It is a satisfaction to add that this has apparently come mostly as the result of quiet recognition by student advisers in other institutions, by the officers of foundations directing the programs of foreign students, and by word of mouth from students who have been here to others who have a choice to make. Certainly few institutions have done less in an official way to recruit graduate students than the University of Minnesota. The increase from 175 graduate students in 1913 to 2,800 this last year is the result of social factors and of the University's persistent efforts to build a strong staff and to support its teaching and research by every means at its disposal.

*Funds for research.*—The limited amount available from state funds for general research has been generously supplemented in recent years by grants from the Rockefeller Foundation, the Carnegie Corporation, the Spelman Fund, and other sources (Table V—Fluid Research). The large fund given by the Rockefeller Foundation and expendable over a five-year period in graduated and decreasing amounts comes to an end with the year ahead of us (1936-37). Thereafter general research, unless some provision is made, will have no more support, scarcely as much, as it did twenty years ago, except for the special item of \$25,000 a year for medical research on this campus. The support of the Mayo Foundation, increased by the wisdom of the Mayo Clinic, goes steadily on in its aid to significant research by the staff and fellows of the Graduate School at Rochester. Federal funds in agriculture and the matching money of the state are of aid in applied research, but too often stop short when basic research is the real interest of the scholar and the ultimate good of science and agriculture.

It is a matter of concern that henceforth, unless other provision is made, basic research in science and the humanities in their widest sense will be in no such advantageous position as they have been in the last seven years.

*Recruitment and replacement.*—Added proof that we have highly competent men in the younger years is found in the recent ten-year summary of the Guggenheim Memorial Foundation, where appointments from the staff and the number of former fellows on the staff show that Minnesota is outranked by only one other state university, and is far ahead of most of the older endowed universities. The significance of this should not be overlooked. It gives encouragement in the face of loss by retirement in the next few years of over eighty men who have been outstanding members of the graduate faculty during two decades. The Graduate School, which draws its staff by selection of outstanding teachers and investigators from all colleges, is more concerned than any other single unit with this problem of recruitment and replacement. The excellent appointments in several depart-

ments recently indicate that deans and departmental heads are thoroly alert to the situation. The new retirement annuities plan, the steady growth of our library and laboratory facilities, an active university press as a publishing outlet for scholarship, and above all, the state's support and interest in its University, are factors that I am sure will play their part in holding and attracting a staff that can carry on when the veterans retire.

*Fellowship needs.*—For fellowships to outstanding graduate students we have only the endowments of the Shevlin and Dorr funds for a handful among the scores of deserving and needy. The gifts of the College Women's Club of Minneapolis and the Woman's Club and the Clara Ueland Fellowship enable us to aid only three selected young women. The grants for public service training will supply six to ten other students with modest stipends while they pursue graduate studies.

*The Master's degree.*—For as long as there has been organized graduate work at this University, one of the major requirements for the Master's degree has been a thesis. This was no casual essay, and in some cases was sufficiently elaborate and significant to rank with the Doctor's dissertations accepted at worthy institutions. The burden upon advisers and readers was heavy. The value of the degree to those who had no vivid interest in research and no desire to be tested out by a lesser Ph.D. procedure, did not often compensate for the effort that was involved; nor did the requirements adequately conform to the cultural and professional interests of students, especially those in education. After long consideration by the executive and group committees, a plan was presented and adopted by the teaching faculty which offers an alternate method for the choice of departments. They can retain the thesis method of past years, (and many, especially in the sciences, will retain it exclusively) or they can promote candidates to the Master's degree by an increased amount of course work as described in the following quotation from the preliminary statement issued to advisers of graduate students:

#### PLAN A: THE MASTER'S DEGREE WITH THESIS

There will be no change from the present requirements.

#### PLAN B: THE MASTER'S DEGREE WITHOUT THESIS

The requirements under this plan in matters of admission, residence, transfer of credits from other institutions, and final examinations, follow the previous thesis plan called Plan A. It differs in substituting for the thesis a heavier course requirement which if met in summer sessions means more than the minimum four sessions under Plan A. While it does not permit an indiscriminate scattering of courses over unrelated departments, it does not stress so definitely the concentration on one major and one minor field. In so far as it has a professional aspect, it is less a test of research interests, and presumably more adapted to those who as teachers or secondary school administrators will profit by a broader range of knowledge in the fields they teach or supervise. Whether taken for professional or cultural purposes, the requirements under Plan B are meant to test interests and intellectual abilities for a different purpose and not on a different level from those required for Plan A. The transfer from one plan to the other may be made with the approval of the adviser or the major department committee supervising the student's work.

Under Plan B candidates for the Master's degree must complete, with an average of B, 45 quarter credits in graduate courses listed in the Graduate School Bulletin. At least 21, and not more than 27, credit hours should be in a single major field. At least 9 quarter credits must be in advanced courses, seminars or independent work under faculty supervision and requiring the preparation of written reports representing the quality but not the range of the Master's thesis. Courses which offer an opportunity to meet this 9-hour requirement are marked in the Graduate School Bulletin with an asterisk (\*).

The operation of the new plan furnishes many difficult problems, especially to advisers. It is obviously not just a matter of determining successful candidacy for the Master's degree by adding up credits and checking grades.

TABLE I. GRADUATE STUDENTS ACCORDING TO DEGREES  
FOR WHICH THEY HAVE APPLIED

	YEAR 1934-35	YEAR 1935-36
Master of arts .....	1,012	1,260
Master of laws .....	0	0
Master of science .....	624	733
Engineer degree .....	8	8
Doctor of philosophy .....	513	551
No degree desired .....	303	138
Totals .....	2,460	2,690

TABLE II. CLASSIFICATION OF GRADUATE STUDENTS ACCORDING  
TO RANK ON STAFF

	YEAR 1934-35	YEAR 1935-36
Associate professor .....	0	3
Assistant professor .....	4	10
Instructor .....	108	120
Teaching fellow .....	72	72
Assistant .....	206	220
Mayo Foundation fellow .....	233	280
Fellow .....	9	12
Totals .....	632	717

TABLE III. GRADUATE STUDENTS ACCORDING TO AMOUNT OF WORK  
FOR WHICH THEY HAVE REGISTERED

	YEAR 1934-35	YEAR 1935-36
Men registered full time .....	352	460
Women registered full time .....	181	172
Men registered part time .....	597	604
Women registered part time .....	293	323
Men registered full time on the Mayo Foundation .....	219	263
Women registered full time on the Mayo Foundation .....	14	17
	1,656	1,839
<i>Summer Session</i>		
	1934	1935
Men registered full time .....	272	286
Women registered full time .....	167	174
Men registered part time .....	291	380
Women registered part time .....	243	318
	973	1,158
	2,629	2,997
Total men registered, 1934-35 .....	1,626	
Total women registered, 1934-35 .....	834	
	2,460	
Total men registered, 1935-36 .....		1,857
Total women registered, 1935-36 .....		933
		2,790

TABLE IV. FOREIGN STUDENTS REGISTERED IN THE GRADUATE SCHOOL

	YEAR	YEAR		YEAR	YEAR
	1934-35	1935-36		1934-35	1935-36
Australia .....	1	2	Norway .....	1	1
Canada .....	23	38	Palestine .....	1	0
China .....	11	28	Philippine Islands .....	2	3
Colombia, South America .....	0	1	Porto Rico .....	1	0
Czechoslovakia .....	0	1	Portugal .....	1	2
England .....	2	2	Roumania .....	0	1
France .....	0	1	Russia .....	2	1
Germany .....	4	6	Scotland .....	1	1
Holland .....	1	0	South Africa .....	3	1
Hungary .....	1	1	Spain .....	1	2
Iceland .....	0	1	Sweden .....	1	0
India .....	5	5	Switzerland .....	1	1
Ireland .....	1	1	Turkey .....	1	2
Italy .....	0	1	Wales .....	1	0
Japan .....	1	2			
New Zealand .....	0	2	Totals .....	67	107

TABLE V. GRANTS AND FUNDS FOR RESEARCH

	NUMBER	AMOUNT	AMOUNT
	OF GRANTS	GRANTED	SPENT
	1934-35		
Fluid research .....	64	\$50,741.82	\$42,529.70
Graduate research .....	35	11,390.43	9,417.15
Medical research .....	47	25,979.47	24,768.04
	146	\$88,111.72	\$76,714.89
	1935-36		
Fluid research .....	50	\$40,481.73	\$29,375.43
Graduate research .....	41	10,276.30	8,586.89
Medical research .....	46	25,552.66	23,740.04
	137	\$76,310.69	\$61,702.36

Respectfully submitted,

GUY STANTON FORD, *Dean*

### MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH

Following is a brief summary of the finances and work in medical education and research of the Mayo Foundation from July 1, 1934 to June 30, 1936.

*Financial statement.*—On July 1, 1934, the balance in the foundation fund was \$17,185.11. During the biennial period covered by this report there was added \$227,500.58 (\$114,729.84 for the year 1934-35 and \$112,770.74 for the year 1935-36), income from the fund, and \$37,598.04 unused portion of the annual income was transferred to the endowment fund. The total expenses for the same period were \$734,501.42 (\$348,619.61 for the year 1934-35 and \$385,881.81 for the year 1935-36). Of this amount \$198,510.56 (\$94,316.91 for the year 1934-35 and \$104,193.65 for the year 1935-36) was paid from the foundation fund and \$535,990.86 (\$254,302.70 for the year 1934-35 and \$281,688.16 for the year 1935-36) was paid from the educational fund of the Mayo Clinic. The balance on June

30, 1936, was \$8,577.09. There was budgeted \$105,873 for the year 1934-35 and \$118,922 for the year 1935-36.

*Faculty.*—The number of members of the faculty in the Mayo Foundation is shown in Table I.

TABLE I. FACULTY CLASSIFICATION, MAYO FOUNDATION

	PROFESSORS	ASSOCIATE PROFESSORS	ASSISTANT PROFESSORS	INSTRUCTORS	TOTAL
Number on duty July 1, 1934 .....	26	43	39	36	144
Promotions .....	.....	5	1	6	.....
New appointments .....	.....	.....	.....	7	7
Resigned .....	.....	.....	1	1	2
Number on duty July 1, 1935 .....	31	39	43	36	149
Promotions .....	.....	2	9	7	.....
New appointments .....	.....	2	1	5	8
On leave .....	.....	2	.....	.....	2
Resigned .....	.....	.....	.....	1	1
Deceased .....	1	1	.....	.....	2
Number on duty July 1, 1936 .....	32	45	42	33	152

TABLE II. ANALYSIS OF FELLOWSHIP APPLICATIONS,  
MAYO FOUNDATION

	ON FILE JULY 1, '34	RECEIVED	NOMI- NATED	ARRIVED DURING PERIOD	TO ARRIVE OR WITH- LATER	DECLINED OR WITH- DRAWN	STILL OPEN FOR AP- POINTMENT JULY 1, '36
Medicine .....	30	182	50	36	14	133	29
Dermatology .....	2	14	5	3	2	5	6
Neurology .....	3	15	2	1	1	12	4
Pediatrics .....	3	25	6	4	2	14	8
Total medical specialties .....	38	236	63	44	19	164	47
Surgery .....	38	430	63	42	21	328	77
Anesthesia .....	.....	7	3	3	.....	3	1
Neurosurgery .....	.....	9	3	2	1	3	3
Obstetrics .....	4	34	4	3	1	26	8
Ophthalmology .....	2	14	4	2	2	8	4
Orthopedics .....	2	20	5	4	1	13	4
Otolaryngology .....	3	13	4	3	1	8	4
Proctology .....	1	9	3	2	1	2	5
Urology .....	4	31	4	3	1	21	10
Total surgical specialties .....	54	567	93	64	29	412	116
Dental surgery .....	7	45	3	3	.....	24	25
Bacteriology .....	.....	7	.....	.....	.....	7	.....
Biophysics .....	1	2	1	1	.....	2	.....
Chemistry .....	1	1	.....	.....	.....	2	.....
Pathology .....	9	24	7	3	4	23	3
Physiology .....	.....	4	1	1	.....	2	1
Radiology .....	3	23	4	3	1	16	6
Cytology .....	.....	1	1	1	.....	.....	.....
Nutrition .....	.....	4	2	2	.....	1	1
Parasitology .....	.....	1	1	.....	1	.....	.....
Total fundamen- tal specialties .....	14	67	17	11	6	53	11
Grand totals .....	113	915	176	122	54	653	199

*Applications for fellowships.*—During the year 1934-35, 1,421 individuals and during the year 1935-36, 1,614 individuals made written inquiries or came for personal interviews concerning graduate work in the foundation. Some were ineligible, some were not desirable from one standpoint or another. Some were advised to apply elsewhere and others were advised to seek further training and apply later.

On July 1, 1934, there were on file 113 formal applications for fellowships in various specialties. During the year 1934-35, 695 formal applications, and during the year 1935-36, 813 formal applications were received. Of these, 447 were completed during 1934-35 and 468 during 1935-36. An analysis of the 113 applications on file July 1, 1934, and of the 915 applications received during the period is shown in Table II.

An analysis of the fields in which fellows in the foundation are majoring is shown in Table III.

TABLE III. MAJOR FIELDS OF MAYO FOUNDATION FELLOWS

FIELDS	FELLOWS IN FOUNDATION JUNE 30, '34	FELLOWS WHO LEFT OR TRANSFERRED TO OTHER FIELDS	FELLOWS WHO CAME OR TRANSFERRED FROM OTHER FIELDS	FELLOWS IN FOUNDATION JUNE 30, '36
Medicine .....	43	36	62	69
Dermatology .....	6	3	3	6
Neurology .....	3	2	5	6
Pediatrics .....	6	4	6	8
Total medical spe- cialties .....	58	45	76	89
Surgery .....	55	42	63	76
Anesthesia .....	2	1	7	8
Neurosurgery .....	3	2	2	3
Obstetrics .....	4	3	7	8
Ophthalmology .....	2	3	5	4
Orthopedics .....	6	5	6	7
Otolaryngology .....	6	3	4	7
Proctology .....	2	3	5	4
Urology .....	6	5	7	8
Total surgical spe- cialties .....	86	67	106	125
Dental surgery .....	3	2	3	4
Biophysics .....	1	2	1	.....
Chemistry .....	2	2	1	1
Cytology .....	.....	1	1	.....
Hematology .....	.....	1	1	.....
Nutrition .....	.....	.....	2	2
Parasitology .....	.....	.....	1	1
Pathology .....	10	13	16	13
Physiology .....	1	3	5	3
Radiology .....	6	3	4	7
Total fundamental fields .....	20	25	32	27
Grand totals .....	167	139	217	245

The reasons for the 139 fellows leaving their fellowships during the period are as follows:

- 18 transferred to other fields
- 8 representatives of other institutions
- 25 on leaves of absence, health, or financial stringency
- 10 returned during the period
- 2 majoring in dental surgery (two years)
- 17 with less than three years of residence other than in dental surgery
- 29 with three years or more of residence without degrees
- 40 with three years or more of residence with degrees

The schools of last graduation of the students registered during the biennial period are as follows:

#### AMERICAN SCHOOLS

University of Minnesota .....	36	Jefferson Medical College .....	3
University of Pennsylvania .....	27	Syracuse .....	3
Northwestern University .....	23	University of California .....	3
Rush Medical College .....	22	University of Colorado .....	3
Harvard University .....	10	University of Maryland .....	3
Tulane University .....	10	University of Texas .....	3
University of Illinois .....	10	Columbia University .....	2
Indiana University .....	9	Cornell University .....	2
Johns Hopkins University .....	9	George Washington University .....	2
University of Virginia .....	9	Medical College of South Carolina .....	2
University of Michigan .....	8	Ohio State University .....	2
University of Cincinnati .....	7	University of Buffalo .....	2
University of Iowa .....	7	University of Georgia .....	2
University of Nebraska .....	7	University of Kansas .....	2
University of Pittsburgh .....	7	University of Oregon .....	2
University of Wisconsin .....	7	University of Tennessee .....	2
Stanford University .....	6	Yale University .....	2
Baylor University .....	5	Duke University .....	1
Medical College of Virginia .....	5	Emory University .....	1
Temple University .....	5	Kansas City Western Dental .....	1
University of Chicago .....	5	Kansas State College .....	1
Georgetown University .....	4	Louisiana State University .....	1
Washington University .....	4	St. Louis University .....	1
College of Medical Evangelists .....	3	South Dakota State College .....	1
Detroit College of M. and S. ....	3	Tufts College .....	1
Iowa State College .....	3	University of Louisville .....	1

#### CANADIAN SCHOOLS

University of Manitoba .....	11	University of Toronto .....	6
Queen's University .....	7	Dalhousie University .....	3
McGill University .....	7	University of Alberta .....	1
University of Western Ontario .....	1		

#### FOREIGN SCHOOLS

Dublin University .....	2	University of Glasgow .....	1
University of Lisbon .....	2	University of Heidelberg .....	1
University of Madrid .....	2	University of Iceland .....	1
University of Vienna .....	2	University of Leiden .....	1
Mysore Medical College .....	1	University of Oslo .....	1
Otago University .....	1	University of Paris .....	1
St. Bartholomew's Hospital .....	1	University of Pazmany Peter .....	1
University of Bucharest .....	1	University of Prague .....	1
University of Capetown .....	1	University of Rome .....	1

*Degrees.*—Forty-seven graduate degrees were conferred by the University of Minnesota on fellows of the foundation during the biennial period (Table IV).

TABLE IV. GRADUATE DEGREES GRANTED

FIELDS	MASTER'S	DOCTOR'S
Surgery .....	19	.....
Medicine .....	4	2
Pathology .....	5	1
Urology .....	5	.....
Otolaryngology .....	2	.....
Anesthesia .....	1	.....
Physiologic chemistry .....	.....	2
Biophysics .....	.....	1
Neurology .....	1	.....
Orthopedic surgery .....	1	.....
Physiology .....	1	.....
Proctology .....	1	.....
Radiology .....	1	.....
	41	6

*Lectures.*—In general five types of lectures are available for fellows in the foundation. These are: (1) lectures by our own staff two evenings each week from October to May; (2) staff meetings held each Wednesday evening throughout the year; (3) series of about six exchange lectures per year by eminent persons on the faculty of the Medical School; (4) series of Mayo Foundation lectures by eminent persons from out of town on some subject directly related to medicine; (5) series of about six lectures per year by the local chapter of Sigma Xi. These are usually given by persons from out of town and are on subjects not closely related to medicine. Members of the foundation faculty give a series of lectures at the Medical School during each year.

Seminars are coming to play a more and more important part in the educational program of fellows in the foundation. These are conducted by the fellows themselves but are participated in by members of the staff, and usually are held weekly from October to May.

Two groups of foundation fellows have spent one day each week on the Main campus in Minneapolis upon the invitation of the faculty there. Each group was delighted with the courtesies shown them and the very pleasant contacts made.

*Publications.*—A study of the publications by faculty and fellows of the foundation shows that there have appeared approximately 325 articles each year. Fellows have been responsible in whole or in part for nearly one half of them. All papers are republished in whole or in part in the annual volume *Collected Papers of the Mayo Clinic and Mayo Foundation*. The publications embody the research work completed and touch too diverse fields to permit a ready analysis.

Respectfully submitted,

LOUIS B. WILSON, M.D., *Director*

## THE GENERAL COLLEGE

*To the President of the University:*

SIR: I submit the report on the development of the General College of the University from July 1, 1934 to June 30, 1936.

*The purposes of the college.*—As we proceed with the composite of experiments known as the General College, its function and purposes become increasingly clear. The exploration of the field and the defining of general education and particularly the study of our student population, their abilities, needs, interests, wants, and drives go on apace. It is apparent that there is an important function, hitherto neglected in higher education, that the college can with incessant study learn to perform.

Higher education has in the past set as its chief goal the training of the professional, the specialist, the researcher, and the leader. Under employment restrictions in these higher occupational fields, and under the open competition of equal opportunity in democracy to try for places in medicine, law, teaching, and the like, the pressures of competition—one student against another—for training and employment have grown great indeed. Hence hundreds now struggle towards these goals where but a few previously sought them. Training periods in the professions have been extended far beyond the times earlier required. Standards of study and performance have been stepped up, and criteria of selection for the higher schools are being constantly refined and made rigorous. None could applaud more than I this tendency. It is certain that with the increasing complexity of human society we need desperately more and more highly trained leadership; better skilled and more keenly imaginative researchers; professional people of broader grasp, higher ethics, finer techniques than their predecessors dreamed of; specialists who will probe and dissect their specialties until little remains yet to be known about them. There is no question, therefore, that the University should bend much of its force to the training of such men and women.

It is clear, however, that in a public university of many thousands, comparatively few students have the abilities, drives, and interests to meet and succeed in such competition. While the proportion of leadership is, by the very nature of things, higher among college and university students than in the general population, it is improbable that it exceeds at any time, in any college, over 20 per cent of the students enrolled.

What then of the remaining large majority? In the past, higher institutions have set up for this group an objective of so-called "liberal" or "cultural" training. Formerly, before the rising flood of education in democracy had climbed through the secondary and into the college field, this training did service in giving a certain understanding of man and his milieu in a considerably simpler civilization to a few students of society's upper economic, social, and intellectual strata, and it put upon them also a cultural stamp. As, however, industrial civilization has swung into its full complexity and speed of change, the older "liberal" training has diminished in its effectiveness. The "cultured" man or woman of twenty-five years ago is not the same as the "cultured" man of today. Society's new complexity has bred a new social and economic, political and scientific, ethical and esthetic illiteracy. Knowledge can no longer, except for the specialist, be compartmentalized. New fusions, new interrelations among areas of learning are rapidly becoming realities in men's lives. They must become so in their education. As the General College

staff and their advisers see it, our function is to experiment to find ways and means to bring about in students an improved "cultural" pattern so that they may be at home in the varieties of modern worlds in which they must pass their lives, so that they may see, altho dimly, the verging of one of the worlds upon the others—the esthetic, for example, upon the economic, social, and biological worlds, as they are lived in by contemporary and future adults in America. If, in time, such general education can be devised and made fully effective, even the specialist—perhaps particularly the specialist—can profit by devoting a portion of his time to learning, through overview courses, much about the fields of human activity outside his specialty, in which he must through life appear as a layman. As we see it, general education should become the broad base of common knowledge from which specialization and leadership, research and scholarship emerge. Altho it may be in part preparatory, it must be preliminary to the higher studies for those of extreme competence and willingness to make the sacrifices demanded of all who thus emerge.

*Registration.*—The General College has grown in numbers in the past two years from approximately seven hundred individual students in 1933-34 to approximately thirteen hundred individuals in 1935-36, about one thousand having been in residence at any one time during the year.

*Assistant director.*—The college suffered a loss in the resignation of its assistant director, Frederick L. Hovde, who accepted the position of assistant to President A. C. Valentine of the University of Rochester. It gained, however, in that Dr. C. Gilbert Wrenn, who directed student personnel and was assistant registrar and assistant professor of education at Stanford University, was persuaded to come to Minnesota, beginning in 1936-37. He has agreed to divide his energies between the General College and the College of Education.

*Faculty.*—During the first three years of the General College, all instruction was offered by faculty members borrowed from other units on invitation and voluntary willingness to share in the experiment, and through the co-operation of the deans. I cannot praise too highly the valiant work of many of these staff members. This co-operative arrangement has many advantages. It gives the students of the General College contact with many of the best teachers on the staff of the University. It brings the minds of specialists in various fields to bear on the problem of devising general education. It breaks down in some measure the isolation and suspicion that any new unit must undergo during the period of its experimental growth and establishment. Moreover, in some instances the other schools and colleges appear to have profited by the co-operative experimental work on the problems of the college. In fine, a sometimes irritating but, on the whole, a healthful and stimulating ferment in the whole University has been set up by the co-operative faculty system.

On the other hand, there are disadvantages inherent in a scheme based solely on borrowed faculty. These men and women are primarily trained as specialists and, therefore, with some exceptions have a specialist's set. Their first allegiance is and should be, perhaps, to their own college and department and subject-matter field. They have not had time nor means to train themselves in the analysis of students and their needs, abilities, and interests in general education. The majority have never studied critically the history, philosophy, and science of education; nor the social, economic, and political forces that, in changing American democracy, give rise to the needs for a new development in general education; nor the science of adequate measurement of outcomes of instruction in terms of a human end-product of education. They are busy people with heavy responsibilities in their

special fields and have, therefore, too little time to give to the development of General College courses without sacrificing time and effort due their source departments or assuming an almost intolerable burden of additional work. In consequence, some of them tend to look upon their courses for the General College not as newly created organizations of subject-matter with wide-open opportunity for experiment with the methods of instruction but rather as dilutions of the concentrated stuff of their special fields, or as mosaics of fragmentary shards of traditional specialized materials taught by traditional methods. Some recognition of this difficulty has already led to the establishment of a few instructorships and one assistant professorship in the college. Adequate staffing will probably entail in the future a post for teaching and research in each of our comprehensive areas and several others in the guidance and research fields.

*Development of examinations.*—It was obvious from the beginnings of the college that no experiment or composite of educational experiments such as we are attempting could become clear in purpose and objective, efficient in method, and of full service to students unless it had an adequate program of evaluation of all of these. The examination service and research have been carried on to the point where we are beginning to have confidence in the validity and reliability of certain types of examinations to measure some of the outcomes of our instructional program. These experiments have made preliminary survey of the unexplored territory ahead and laid out the lines which must be followed in the future.

It is now strikingly clear that the majority of university teachers of my own generation, and still far too many of the younger teachers, are not only untrained in the setting up of educational, college, and course objectives; untrained also in competent measurement of student progress or achievement in terms of effect on students of the program; but for the most part they are also unaware of the problem. They do not know that their examinations are faulty and inadequate measurements; that subjective judgments are as variable as the weather; that hence they have no real means of measuring the effect of the work to which they devote their lives.

Under the measurement program of the University Committee on Educational Research for the General College we now know that we have highly dependable examinations to measure memorization of fact, understanding of meanings and extent of vocabulary, and knowledge of laws and principles in any given area of general education at present in the curriculum of the college. We know that we are, year by year, approaching satisfactory measurement of a student's immediate power to apply such knowledge to the solution of new life problems and the interpretation of new situations. But we also know that we have thus far fashioned only the rudiments of crude techniques for measuring the motivating force of our courses or the corresponding attention, intentness, interest, and consequent learning activity in the students themselves; only the beginnings of the measurement of the effect of material and teaching upon student attitudes and student appreciations in which center most of what we mean by adjustment, character, and culture. Finally we know from these studies that we have not as yet made more than the mere beginning of an attempt to measure individual student growth in any of these vital fields. Hence in the years to come we must seek far and earnestly the ways and means to measure and evaluate these as yet guessed-at factors and results.

Through the experiments of the committee the General College has at present what no other higher institution has, to my knowledge, ever obtained. This is a reservoir of examination questions, at present more than fifty thousand in number. Each of these questions through individual student item analyses—amounting to

more than one million five hundred thousand in the past year alone—has been validated in terms of its power to differentiate one student from another. In fact, a case history has been recorded for each of these fifty thousand items. This does not mean, however, as I have just said, that we can rest here. The reservoir has only just begun to fill. It must be kept fresh and the level rising. It must have companion reservoirs in the areas of attitudes, interests, and appreciations. And, in time, its material must be made useful in the studies and analyses of individual student growth. It is not, in our judgment, of much import to educators what a student has memorized at any given time, what his powers of application are on a single examination, nor even at a single moment, his interests, attitudes, and important "feelings." But what is really important to us and to the student is his growth in these areas, how far he has gone at the end of a course or a year in comparison with where he was at the beginning. Towards this goal, difficult but in time achievable, the committee, the staff, and the college bend their co-operative effort.

*The General Education Board grant.*—The General Education Board granted a sum of \$25,000 a year for each of three years beginning July 1, 1935, for two purposes:

1. A study of the late adolescent student in the college environment.
2. A study of, and attempt to define and implement, general education.

To assist the college in carrying out the first of these studies, a committee on organization and steering was called together. It was made up of the following: John E. Anderson, R. M. Elliott, A. C. Eurich, Florence Goodenough, Donald G. Paterson, F. L. Hovde, and me. This committee decided to employ with grant funds two trained research counselors. J. G. Darley of the University Testing Bureau, and Kathleen McConnon of the Child Welfare Institute were chosen.

From July 1 until the opening of the college year Mr. Darley and Miss McConnon reviewed the counseling and guidance work of the General College from its beginnings. They analyzed student folders. They studied the relationships of the various personnel agencies of the University. They analyzed the charter, philosophy, and curriculum of the General College. They prepared preliminary forms for the gathering of research and clinical data on students. Before the opening of college they reported their summer's findings to the steering committee, and plans were blocked out for the year's work.

The first step was the administration of a battery of five hours of attitude testing for all students entering the General College. The second was the organization of registration procedures on a tentative plan which was made more and more efficient as experience grew. The third, after college had begun, was the organizing of interview schedules so that in the course of the year more than eight hundred students were interviewed on an average of two interviews each. The data from these interviews were recorded by dictaphone and transcribed to the new form sheets. The fourth, was the organization of referrals of many hundreds of these students to the University Testing Bureau for further diagnostic testing and to other personnel agencies of the University such as the Health Service.

The fifth step, organized this spring by the counselors and the steering committee, was the planning and carrying out of an analysis of the data acquired. Raw data on 76 possible variables on 1,300 students have just been coded and run through the Hollerith machine. During the coming year analyses will be made, and a description of the population of the General College reported. Important as this description will be to understanding our population in order to teach them more effectively, and important as it may be to the University as a

whole and to other institutions, it is not of any more importance than the service rendered by the counseling staff directly to large numbers of students. Many of these were clarified in their problems, oriented and focused in their goals, and matured in their attitudes by clear, objective conferences.

In late spring the steering committee took further action. It agreed first to enlarge its group by the addition of F. S. Chapin and Alice Leahy Shea. At this time tentative plans were laid for a continuation of the general study by Mr. Darley and by Miss McConnon through the summer, the latter on her marriage, to be replaced by Cornelia Taylor Williams. Furthermore plans were laid for an intensive case study during the coming year of 75 male and 75 female students in the General College. These are to be chosen from among the sophomore students on whom we already have considerable first year study data. The further exploration of these people will be pressed as far as possible by the counselors, assisted by a still-to-be-appointed research assistant and with frequent checks against the experience of the various members of the steering committee, and occasional general meetings of the committee and counselors for progress reports and discussion.

To assist the college in carrying out the second study to define and implement general education a plan for a group of research co-ordinators was set forth. Small committees of deans, heads of departments, and staff in the general curricular areas of the college met, gathered all available information on candidates, and finally selected the following: Francis S. Appel, University of Minnesota, English; Ivor Spafford, Ohio State University, Euthenics and Home Life; William B. Tucker, M.D., University of Chicago Medical School and Bennington College, Human Biology; Arthur R. Upgren, Department of State, Economics; Alfred L. Vaughan, University of Minnesota, Physical Science Studies; and Thomas J. B. Wenner, Cornell University, History and Government. In addition to these people, the following were added to the instructional and research staff of the college: Raymond F. Sletto, Social Problems; Elmo C. Wilson, Contemporary Affairs; and Howard Gilkinson, Oral Communication (half time), all of the University of Minnesota. In general terms it was the function of these co-ordinators to study:

1. The character, philosophy, and brief history of the college.
2. The population of the college through the findings of the counselors.
3. The structure of the curriculum.
4. The selection of materials and methods of presentation in the daily classes in their own and related curricular areas.
5. The examination system and the work of the Committee on Educational Research in its evaluation of the work of the college.

Finally they were and are expected to discuss their findings with the instructional staff, with the administration, with the counselors, and with one another in weekly staff meetings, and to plan and help the staff and administration to carry out experimental changes in organization, course content, and teaching methods. Through these processes it is hoped by the end of the three-year study to have clearly defined:

1. General education as such.
2. The objectives and functions of general education in realistic terms of the students to be served.
3. The general areas of such education.
4. Some of the course content and methods whereby it can be made effective in terms of students and the young American adults they are about to become.

Considerable progress has already been made in the rebuilding of the curriculum. Particularly, has reorganization taken place in the Euthenics and Home Life area and careful plans are charted for further experimentation and exploration next year. Because of Miss Spafford's success, she has been appointed assistant to the director in charge of curricular revision for the duration of the grant study. The other co-ordinators have likewise instigated changes. Dr. Tucker, co-operating with Dean H. S. Diehl and his associates in medicine and Mr. D. E. Minnich and his staff in zoology have replanned the work in human biology. Mr. Appel's studies indicate new lines of venture in both literature and the Writing Laboratory; Mr. Wenner, with Mr. William Anderson and his associates in political science, and Mr. L. B. Shippee, Mr. A. C. Krey, and Mr. T. C. Blegen are working out both revisions and new courses and methods in history and political studies. Mr. Vaughan is continuing the study and improvement in physical science and technology. Mr. Sletto is to carry further his work in social problems, and Mr. Wilson his in contemporary affairs. Mr. Upgren has resigned his co-ordinatorship to continue his graduate studies and teach in the School of Business Administration but not without leaving his mark on the economics area. Of very real significance is the experimental work in speech begun by Mr. Gilkinson and carried on with the assistance of Visual Education in the recording of student speech from time to time on records so that student and instructor can have an actual basis for comparison and a measure of improvement.

*Education and adult needs.*—It has long been clear that in order to make a curriculum in general education valid, we should know accurately and far more definitely than we now know the problems, needs, desires, useful bodies of knowledge, and appreciative needs and satisfactions of American adults. The co-ordinators, administration, and various members of the staff from other colleges who are interested in the problem are forming a committee early in the fall to make this study. The groundwork is already being laid. Mr. Sletto has, through the summer, gathered a list of 1,600 former University of Minnesota students. These will constitute a random sample of men and women, now out in society, who entered the University at four different periods. They will be asked to assist us by all known techniques to check their needs and interests since college against the offerings of the General College. In this experiment all co-ordinators will assist in order that they may bring the realism of their findings to further curricular and method revision.

*Areas of need.*—Out of the discussions and discoveries of the past year we assume that this study of adult needs will either corroborate or destroy our growing conviction that general education has three important groups of questions to answer for American youth. These may be tentatively stated as follows:

1. What kind of job can I get and hold to the satisfaction of myself, my family, and my friends; in the light of my abilities and disabilities, my weaknesses and strengths, my desires, needs, interests, and feelings; and in the light also of the probable social, economic (especially employment), and political trends in the United States? It appears now to the research and administrative staff that general education has a high responsibility to answer this question of vocational orientation in the broadest possible terms, but that it has no responsibility to give direct vocational training. This opinion is strengthened by the findings of the Employment Stabilization Research Institute which indicate that for practically all vocations below the professional and managerial levels training can be best obtained on the job and in periods of from three days to six months. This does not mean, however, that broad-based, vocational orientation and other phases of

general education may not have vital meaning for individuals at work since, properly effective, such education may contribute through the building of personality factors, widened intellectual understanding, sound motives, sensible drives, and right attitudes to success in job getting, job holding, and personal development on the job.

2. What kind of wife or husband should I marry? On what income? How may we be realistic and sensible in our adjustment to one another? To one another's parents and relatives? To our children? To our family biological, psychological, and financial problems? In what kind of a physical home? At what cost? How may this be made an efficient and a comfortable and beautiful plant for living? How do we organize our social relationships with neighborhood, school, and church? Our business relationships with private and public agencies who sell us goods and services? And how may we together as a family, and separately as individuals, get the utmost in our so-called leisure time? The area of personal satisfaction and growth in home life has been far too long neglected by higher education and yet within the home, confronted by daily questions in the areas outlined above and many others, men and women spend nearly two thirds of their lives. The implications are clear.

3. What—granted the satisfaction of basic needs 1 and 2—are then my social and civic responsibilities? How do I become sensitive to and aware of them? How do I learn to become a satisfactory member of my neighborhood, my town, my state, my nation, my world? Should I not devote a portion of my so-called leisure time to co-operative effort with others to understand and attempt to solve the problems of democracy in these times? There has been a growing movement in both secondary and higher education to "train students for good citizenship." The theme has been developed from many platforms in conventions where teachers gather and in many articles in their professional journals. The movement has been slow in progress and is considered by many to be on the brink of failure. It appears to us that the cause of dissatisfaction lies in the fact that the concept of "training for good citizenship"—important as it is—has been conceived and developed in the minds of adults—mature, employed adults with more or less satisfactory personal and home lives who have learned or begun to learn both that they are socially and civically responsible and how then they can discharge that responsibility. These educators and teachers would press "citizenship" upon the children and youth while these are still growing, still maturing, still bewildered by the attempt to find their place in the world of work, to marry and become adjusted to the complexities of building a fruitful and enriching home life. Therefore it appears to us in the General College and to many of our co-operating associates that social sensitivity and the urge to assume civic responsibility must rest upon a previous development of personal aims in work and home and the learning of broad, clear, intelligent ways of satisfying them. It now seems, awaiting the checks of further studies, that the college will do well to center its efforts in guidance and teaching upon the attempt to answer these three questions of, for, and with youth, and in proper order.

*The Carnegie Corporation grant.*—On January 1, 1935, the Carnegie Corporation of New York granted to the University for research and experiment without specification the sum of \$10,000 a year for each of two years. Since this grant was made six months before that of the General Education Board, a start was made with a limited portion on the preliminary plans later launched in full on the latter grant. With this second grant, however, the direction of the expenditure of funds was clarified and those of the Carnegie Corporation re-routed to

studies in the fields of Appreciation and Visual Education supplementary to, and augmenting the studies in, the other curricular areas of the college. It was planned:

1. To define the objectives of the various causes in appreciation of graphic arts, drama, music, and motion pictures with the later inclusion of literature as a fine art, to work towards better integration of the courses within this area, and to experiment in co-operation with the Committee on Educational Research in experimental attempts to measure and evaluate the program in terms of its effect on the sensitizing of students to the personal and social life values to be found in both study and understanding of, feeling for, and participation in creating, things of simple or complex beauty in these various media. Mr. Ray N. Faulkner was assigned to supervise the general arts experiment. Miss Eleanor Lodge of the University of Toronto for drama, Mr. Gerald A. Hill, for music, and Miss Lucille Fisher for graphic arts, were added to the staff to assist in the experiment.

The college has made the two large skylight garret rooms in Westbrook Hall into a pair of artistic and pleasant general arts laboratories. The Carnegie funds supplemented the staff and furnished needed supplies, materials, and reading matter for the stimulus of student work. Under these vastly improved conditions an attack has been begun on the questions of: What is appreciation? How can it be taught? How can it be measured?

In launching this attack we assume that while appreciation of the lovely and the beautiful is a personal thing its source of stimulus and growth is largely in things that meet the eye, lie ready to the touch, strike upon the ear, and thus reach the inner centers of physical reaction, thinking, and feeling. We assume that courses and laboratories and materials may be organized to offer to students a wider and wider range of esthetic experience. We assume that students under skillful teaching can be stimulated to new hungers, new responses, and new modes and standards of judgment in what has been called by Dr. Blatz of Toronto "the area of the precious intimacies" and by others "private worlds of enjoyment" which we recognize as having importance through life for most of us far beyond the proportionate stress previously given them in education. We assume further that the varieties of response of students to these experiences proffered by the college may be measured if we be but imaginative, inventive, and persistent enough in our attempts to devise such measures. All three of these assumptions remain to be validated, but beginnings have been made this last year and experiments are to be continued next year toward this end.

As in other fields in traditional college systems appreciation has been fragmented, specialized, explored in factual minutia, and its results measured solely in terms either of memorization of names, dates, works, and the like of writers, artists, and composers or of vocational or professional perfection of skills in the creation of writings, sculpture, painting, and the handicrafts, or performance on instruments. There was no place for the development of a layman's enjoyment of the rich resources in modern civilization, of the products of others, or of his satisfaction in a not too skillfully wrought finger painting, woven scarf, soap carving, or bit of self-satisfying writing.

Our efforts in general education therefore are bent toward this end. We would take appreciation as it is to be found on gallery walls, on the museum shelves, in the playhouses, the motion picture theater, the book, the magazine, and swing it out into amazingly rich offerings of American industrial society, with the lamp shades to be bought in the dime store, the streamlining of our modern automobile and airplane, the wealth of good writing to be picked up on the

newsstand, even the fine designs on humble household things such as ink bottles and ash trays, and the packaging of groceries and paints.

Because society itself offers satisfying riches of these sorts beyond the most fantastic dreams of men of even a few decades ago, the offerings of opportunity for exposure and sensitizing to them in general education must be continually broadened. Hence in the General College music has expanded in these two years from a one-quarter lecture course to a year course with ample laboratory periods for listening to and discussing music. Drama which formerly shared a half quarter of its brief lecture chronological treatment with a half quarter in motion pictures now is combined in a two-quarter course, integrated with motion pictures, and with laboratory experiment and discussion, and field trips to plays and movies and their behind-scenes organization. Graphic arts has developed to a year course with wide-ranging opportunity for amateur experience in creating satisfying things in many different media, taking field trips, and reading widely and pertinently the experiences of other men and women who have appreciated them.

2. To carry on a thoroughgoing experiment in the use of visual aids, especially motion pictures, as a demonstration in one area of what might be done in others. For this experiment Mr. Paul R. Wendt, formerly of the University Film Foundation of Harvard University, was employed to assist R. A. Kissack, Jr., director of Visual Education, in the conduct of the experiment and its evaluation. The area chosen was that of general arts and appreciation. Besides furnishing a series of carefully chosen motion pictures, demonstrating every type of good and bad production for the course in motion pictures, and assisting Mr. Faulkner in graphic arts and the staff and assistants in music with the best available motion pictures, the researchers worked with Miss Lodge in drama to give a thorough demonstration of the similarities and differences between a stage play and motion picture. This theme was discussed and demonstrated fragmentarily throughout the course, but at its last meeting the lesson was driven home by an entire scene from a New York play enacted, in full costume and with scenery, on the stage in the Music Hall auditorium, followed by the same scene on the screen in sound as done by Hollywood. Students and faculty alike who saw this demonstration found it an unforgettable lesson in the thing itself and an indication of what may yet be done in teaching if we are alert, imaginative, and experimental enough to make use of new and valuable instruments of education. As a result of these experiments the College of Education offered this summer a realistic laboratory course for teachers on the Use of Visual Aids which was attended by more than seventy teachers in service.

*The report on problems and progress.*—At the launching and during the early experimental stages of growth of any new educational venture, and especially one born into a family of established colleges, it is to be expected that it will be eyed with some suspicion, subjected to open criticism, and made the focal point of gossip, jest, and idle speculation. To all of these the General College has been normally exposed since its beginnings. It was suggested, therefore, that a valuable summation of criticism might be made, and a clarification take place if the college were to prepare a report which could be circulated among the deans of the University, heads of certain departments, and members of the staff, who were friendly to, or sharply critical of, the experiment as observed from the outside, and to a number of administrative officers of other colleges and universities who might be helped in their own plans for reorganization.

In consequence, over a period of some months, the college administration and staff drew together and finally published and circulated *A Report on the Problems*

*and Progress of the General College.* This was issued in March, 1936. It was requested that the recipients write their criticisms and suggestions. It is clear from informal conversations and a number of conferences that the report has served its purpose in making clear in the minds of many the nature of the college, its expressed and implied functions and objectives, and the kinds and difficulty of its problems. We are aware of the value of this clarification in the increasing co-operation that is being developed and welded between this college and the established units of the University.

In this report may be found in detail an analysis of the purposes and functions of the college; its broad problems in the light of social and economic trends affecting higher education; its specific problems of transfer students, admission, curriculum, guidance, extra-curricular activities, student morale, grading systems, standards; the work of research co-ordinators, progress in visual education; and the co-operative projects in evaluation and measurement with the Committee on Educational Research.

*Developments at other institutions.*—Because the problems of the General College at Minnesota in relation to the needs for study of student populations, vocational and educational guidance, development of general education through overview, correlated learning, and lay adjustment to modern life, and invention and perfection of new types of measurement and evaluation are almost universal in the United States, other institutions are seeking ways and means of solving these problems and hence are studying the General College experiment. We have had several hundreds of visitors from forty-four states and nine foreign countries in the past two years. Our correspondence with the institutions represented by these men is enormous. Moreover, various members of the staff, members of the Committee on Educational Research, the assistant director, and the director have had so great a demand for talks at conventions and meetings, and conferences with administrators and faculty committees studying the problems, that many have had to be refused, altho these trips and conferences with their consequent insight into the problems and experiments of other institutions have been of great service to us.

In only two cases have other institutions made the error of attempting to superimpose the entire pattern of the General College on their own faculty and students. Both resulted in failure as must any such artificial application of a structure fail, whereas application of principles, if these be right and sound, may succeed. Among those who have taken the wiser course are: the University of Southern California; Hendrix College, Conway, Arkansas; the University of Florida; Michigan State Teachers Colleges at Mount Pleasant and Kalamazoo; Kemper Military Academy and Junior College, Missouri; Colorado State College of Education; the University of Georgia System; the University of Houston, Texas; New York University; Washington Square College; the University of Louisville, Kentucky; Union College, Schenectady, New York. Other institutions in various stages of planning reorganization to develop general education are: Montana State, University of Idaho, Washington State, Oregon State, University of Wyoming, University of Colorado, University of Denver, University of Omaha, University of Iowa, University of Illinois, University of Akron, Ohio State University, Michigan State, Wayne University at Detroit, College of the Pacific at Stockton, California, Wesleyan University, Brown University, Northwestern University School of Education, and a host of junior colleges and liberal arts colleges particularly in the midwest but with a scattering through the east, south, and far west.

It is not implied that the General College and its staff have been either the only or the chief influences in the reorganizations listed. We have, however, in all these institutions taken part in their councils, faced with them their problems—sometimes on their own campuses, sometimes here, and always in correspondence—discussed principles, difficulties, personnel, and methods. In so doing we have brought to our problems new light and much help.

*The outlook.*—The outlook for the General College is favorable in that its purposes and functions become daily clearer. The increasing co-operation within the University, the sound work of the research staff of the college in discovering the general education needs of young people and translating them bit by bit into the curriculum and the classroom, the greater understanding that comes from working with, and watching developments in, other institutions gives fair hope that in the course of further years of experiment, study, and trial we may come to a more adequate solution of the problems set for us to solve.

Respectfully submitted,

MALCOLM S. MACLEAN, *Director*

## THE UNIVERSITY COLLEGE COMMITTEE

*To the President of the University:*

SIR: I submit my report as chairman of the University College Committee for the biennium 1934-36.

The University College is closing its sixth year of operation. It was established in 1930 by the Board of Regents as a practical means of giving to students, when advisable, greater flexibility in the choice of courses of study than is provided in the curricula of the regular colleges of the University. The University College Committee is empowered to approve courses of study for individual students and to grant the Bachelor's degree upon their satisfactory completion.

The committee has to deal with each student as an individual case. It has not been possible, or even desirable, to formulate any but the most general curriculum requirements. In the last analysis the approval or disapproval of a particular course of study rests upon the best judgment of two or three individual members of the committee who have carefully considered the student's record, his aptitudes, his interests, and his intellectual or professional goal.

Altho each student represents an individual problem there come to the attention of the committee from time to time certain interests common to a number of students. As such interests become recognized we urge that the college most nearly concerned so modify its curriculum requirements that the needs of these students may be cared for without further interposition of the University College. Thus the college has served as an experimental proving ground for new courses of study before they become crystalized into recognized curricula of the University. At present there are two professional objectives which many students applying for registration in the University College have in common. One of these is in group and recreational work in the social service field and the other is in advertising and commercial art.

*Group work interests.*—During the past year a study of the needs of the students interested in group and recreational work has been made by a committee representing the Departments of Art Education, Physical Education, Psychology, Sociology, and Speech. They recommend that there be set up in the University College a combination of courses from the College of Science, Literature, and the Arts and other colleges, especially the College of Education, which would prepare students for work in this field. The committee further expressed the following general views concerning the administration of such courses:

1. That since personal qualities would largely determine the effectiveness of people engaged in such work, great care should be exercised to prevent unsuitable people from being admitted to the course.

2. That the number of fields in which recreational or group work could be done is so large that a considerable measure of elasticity should be allowed in choosing courses for the junior and senior years. The work of freshman and sophomore years might be standardized (but not too rigidly) within the bounds of the present requirements of the College of Science, Literature, and the Arts, but the work of the next two years must be individually planned.

*Commercial art interests.*—Since the establishment of the University College there has been a demand for courses of study in advertising and commercial art. The two formal approaches to advertising offered by the University—one in the School of Business Administration, and the other in the Department of Journalism

of the College of Science, Literature, and the Arts—while similar in many points, differ in that the first emphasizes advertising as a tool of business, and the second emphasizes it as an important adjunct to journalism. Neither course gives much attention to the technical art aspects of advertising, nor is there in the University at present a regular curriculum in commercial art. Because of the continued demand for modification of the advertising curricula, a committee two years ago outlined for the University College a course of study which included work in art and related fields, economics and business, journalism, and psychology. This curriculum differs from that of either business or journalism in that first, it offers much more flexibility and second, it emphasizes art and fields closely related to art.

During the past year, as a result of a thoro analysis of the individual programs of fifty students who have been registered under this general plan, it is found that the curriculum has become fairly well standardized at least so far as group offerings are concerned. It seems, therefore, that the time has come for the University College to consider carefully whether or not the program should be transferred to some other unit in the University. If a curriculum in commercial art were established the needs of perhaps three fourths of the students now taking advertising in the University College would be met.

The rate of registration in the University College has for the past five years remained practically stationary, at about forty new students per year. That the enrolment of the college has not increased is a result of the policy of the committee to urge that wherever possible the needs of students be cared for by a broadening and liberalization of the curricula of the other colleges of the University.

Respectfully submitted,

JOHN T. TATE, *Chairman*

## THE GENERAL EXTENSION DIVISION

*To the President of the University:*

SIR: I submit the report of the activities of the General Extension Division for the biennium beginning July 1, 1934, and ending June 30, 1936.

The activities of the General Extension Division are divided for purposes of administration among the Department of Extension Classes, the Department of Correspondence Study, the Department of Community Service, and the Municipal Reference Bureau. Detailed reports for each of these are on file in the office of the General Extension Division.

*Effects of the depression.*—As pointed out in my last report, the economic depression that began in 1930 had a severe adverse effect on enrolment in extension classes and in correspondence study courses. This loss in enrolment is not to be ascribed to a lack of interest on the part of these adult people in the enterprise of continuing education on the higher levels. The cause was unemployment and the resulting inability of prospective students to pay the required tuition fees. The number of semester registrations in evening extension classes fell from 10,036 in 1931-32 to 7,161 in 1933-34. In my last biennial report I predicted that we had then reached bottom and that beginning with the academic year 1934-35, we should begin to gain back the ground lost in the preceding two or three years. That prediction has been more than fulfilled, as will be indicated in the following statistical report and summary. It will be noted that in 1934-35, the number of semester registrations in evening extension classes amounted to 9,798 and in 1935-36, to 10,684. This last is the largest enrolment we have had in evening extension classes since 1930-31, when the enrolment was 11,849. We have every reason to believe that this rate of increase will be continued during the coming biennium.

The return of a moderate degree of prosperity has been indicated also by a gradual lessening of the demand for student loans to cover tuition. From the loan fund of \$1,500 provided by the Faculty Committee in 1933-34 for the benefit of extension class students, loans were made during 1933-34 to 35 individuals to a total amount of \$559. In 1934-35, loans were made to 30 students to a total of \$533.50. In 1935-36, loans were made to 23 students to a total amount of \$418.

*Education and the adult.*—The university extension movement has confined itself largely to instruction on the college or university level. During the past two years, however, a very considerable impetus has been given to the entire movement for adult education, of which university extension is merely a segment. A significant indication of this wider movement may be seen in the erection on the University campus during the summer of 1936 of a building destined to become a center for continuation studies.

In the extension classes, two distinctly different movements have been distinguishable during the past two years. One is the movement for greater vocational efficiency, and especially for vocational versatility. So many forms of work are passing out of use and so many new forms of work are coming in, that it behooves the young man to be versatile and to be provided with trained abilities in several different, even tho closely allied, fields. The other is the movement in the direction of the use of leisure. In the past two years, there has been a multiplication of classes in subjects that may be called avocational or recreational, or even courses that minister to hobbies.

*Education and the government.*—The Works Progress Administration and the National Youth Administration have somewhat complicated the picture of adult education in Minnesota. Federal funds have been allocated to the state, and through a state administrator, projects of education embracing both adolescent youths and adults have been set up very freely in cities, towns, and villages. The subjects taught are not related to any standards set up by any institution, and the teachers have been selected from the relief rolls. Much good, however, has been done through these projects in keeping these people occupied and in directing their activities into healthy channels. The General Extension Division has been able to participate only slightly in this movement because of the necessity laid upon our organization of teaching standard courses on the university level, through instructors of faculty rank and standing. It is quite probable that adult education of the random and miscellaneous type described above will be prevalent in this state for some years to come. It would seem to be the duty of the Extension Division to attend to its own field of activity, lending aid and assistance to other organizations when called upon, but devoting itself primarily to its chief function—namely, that of teaching college and university courses, through accredited members of the faculty, to students who are prepared intellectually to profit by such instruction.

*The group study plan.*—In my report for the biennium 1932-34, I described our group study plan through which correspondence lessons could be used in local communities for high school graduates who are unemployed and unable to attend college. The Federal Emergency Relief Administration contributed \$50 a month toward the employment of qualified teachers to supervise these home study courses for groups in the local communities. During 1933-34, twelve towns carried on group study with the assistance of the Correspondence Study Department of the University. During 1934-35, fewer towns took part, and in 1935-36 only three towns participated in the plan: Appleton, Albert Lea, and Granite Falls. It would appear, therefore, that this was merely an emergency enterprise and with the resumption of a reasonable degree of prosperity, the plan will fall into disuse. We are still prepared, however, to co-operate with any community that wishes to take care of its unemployed young people in this manner.

*Learning abilities of adults.*—In my last report I called attention to the monograph by Dr. Herbert Sorenson entitled *Adult Abilities in Extension Classes*. I also called attention to the grant from the Carnegie Foundation for the purpose of enlarging the scope of the investigation made by Dr. Sorenson. Since that time, he has extended the use of his tests and questionnaires to extension class students at the Universities of California, Virginia, Colorado, Utah, Kentucky, New Jersey, and Indiana. It is hoped and believed that his comprehensive study will be ready for publication some time during the fall of 1936. We believe that his findings and conclusions will be of great importance to those persons who are engaged in the administration of university extension, and also to all those who are engaged in, or are interested in, the movement for adult education in general. Some important conclusions, tested and verified, will be arrived at touching the learning abilities of adults.

*Course in Embalming and Funeral Directing.*—Since October, 1932, this course has been conducted for three university quarters of twelve weeks each. Since 1921 the standards of admission have been raised until at the present time, the requirement for entrance is graduation from a four-year high school. In spite of the lengthening of the course and the more rigid requirements, the course continues to draw from seventy-five to a hundred students each year. During the

year 1935-36, the State Board of Health of Minnesota adopted by resolution a requirement that all candidates for a Minnesota license to practice embalming should be required to take one year of college work prior to embarking upon the one year specific Course in Embalming and Funeral Directing. This requirement applies only to candidates for a Minnesota license and not to candidates from outside of Minnesota. We regularly have in this course students from fourteen or fifteen other states.

*Extension classes.*—During the biennium under review, regularly organized extension classes were conducted in Minneapolis, St. Paul, Duluth, Faribault, Olivia, Eveleth, Cloquet, Staples, Mankato, Virginia, Stillwater, Chisholm, Hibbing, and Superior, Wisconsin. Below, there are given, in tabular form, the relevant data covering these activities and short courses.

## EXTENSION CLASSES AND SHORT COURSES, 1934-36

	1934-35	1935-36
Student registrations, extension classes:		
Total collegiate .....	6,498	6,528
Total business .....	2,298	2,859
Total engineering .....	1,002	1,297
Total .....	9,798	10,684
Net gain over previous year .....	2,637	886
Summary of fees, extension classes:		
Total .....	\$99,942.20	\$113,473.30
Gain over previous year .....	\$22,124.42	\$ 13,531.10
Total number of extension classes given .....	533	567
Total number of individuals in extension classes .....	6,328	6,983
Gain over previous year .....	1,849	655
Total number of short courses .....	19	18
Total number of kinds of short courses .....	8	8
Number of registrations in short courses (minimum estimate) .....	1,034	782
Total short course receipts .....	\$19,066.40	\$14,017.50
Gain over previous year .....	\$1,585.90	
Loss over previous year .....		\$5,048.90

## CORRESPONDENCE STUDY

*Research projects.*—During the year 1935-36 investigations were carried on regarding the ages, occupations, grades, times of registration, and other points relative to registrants. Why students drop courses was investigated; the validity of certain kinds of promotion was inspected; and a comparison of grades of those registrants taking work both in the department and campus classes was made.

One special comparison completed in 1935-36 related to the grade standing in 1934-35, in the University of Minnesota and twelve other colleges, of the high school graduates who carried university freshman subjects under supervision in their local high schools in 1932-33 and 1933-34.

*CCC education.*—Throughout the past few years the number of enrollees in CCC camps has increased, while their average school advancement has decreased. Reports show that less than 2 per cent of the men in the camps are of college rank. Classes are offered mostly in vocational training and elementary school work. Personal conferences with many educational advisers reveal the fact that there are practically no calls for courses of university grade. Help can be given best by offering the use of films, dramatic material, and a list of available lecturers. The department has therefore desisted from further action.

*Supervised correspondence study in secondary schools.*—While our interest in CCC education has waned, attention to the plan of supervised correspondence study has increased. Since 1932, when the plan was in the inceptive stage, decided advancement has been made in building suitable courses, and in ways and means of instructing supervisors, guiding the efforts of children, enlisting the interest of school systems, and creating an efficient "correspondence center," especially in the state of Nebraska. Some courses, evolved after costly effort, are now published and are available on the open market.

*Stillwater prison students.*—The average number per month studying courses in 1934-35 was 52, the average number of lessons reported per month was 31 and the average per cent of the lesson papers receiving A and B grades was 67. In 1935-36 the average number of men studying per month was 59, the average number of lessons reported per month was 40, and the average per cent of the lesson papers receiving A and B grades was 62.

*New courses and revision of standing courses.*—It is gratifying that school and department heads on the campus have registered favorable opinion of correspondence study work by suggesting new courses and revision of courses already in our files. When these campus heads understand the conservative policy of the department, namely, that courses shall be prepared only by the highly qualified professors and that they shall be approved by the departments as equivalent to the day courses, confidence is established. In 1935-36 finances would permit the preparation of only one new course and the revision of twelve standing courses.

*New policy of State Department of Education.*—The *Manual for Graded Elementary and Secondary Schools* of the State Department of Education, published August, 1935, reveals a more liberal policy in reference to accrediting work taken by correspondence study toward high school diplomas and toward teacher certification than was stated in the manual of August, 1933. In the latter manual, it was remarked that "the State Department is definitely opposed to the acceptance of credit toward high school graduation earned through any form of correspondence courses or private tutoring." The 1935 manual contains plans for the use of "supervised correspondence study" in the secondary schools of Minnesota (p. 22), and for credit by correspondence study courses toward library teacher certification (p. 100).

*New registrations.*—New registrations totaled 1,589 in 1934-35, a gain of 6.6 per cent over the total of 1933-34, which was 1,492. The year of 1935-36 revealed the gain of 6.2 per cent over the registrations of 1934-35. The registrations for 1935-36 totaled 1,687.

#### DEPARTMENT OF COMMUNITY SERVICE

The lyceum branch filled 297 engagements in the first year and 432 in the second year. Lecture engagements declined somewhat during the past biennium. In 1934-35, 95 communities were served in comparison to 50 in the following year. The total number of lectures was 155 in 1934-35 and 56 in 1935-36. In 1934-35, 1,006 visual programs were furnished and the number increased to 1,114 in the following year. The number of communities served through visual instruction increased from 277 in the first year of the biennium to 283 in the second. The drama service likewise showed gains. There were 1,254 requests filled. The number of plays in the library file increased from 2,539 in 1934-35 to 3,389 in 1935-36.

## RADIO

During the biennial period WLB has broadcast approximately 460 hours a year. About two thirds of the time is occupied with informative talks; about one third, is devoted to musical programs, most of them recorded.

Among the more important broadcasts of the period are the following:

1. *University convocations*.—All convocation programs are broadcast during the three quarters of the regular school year.

2. *Economic recovery*.—During the second quarter of each year the School of Business Administration and the Department of Political Science broadcast weekly talks on current economic problems, linked up especially with problems incident to recovery.

3. *Child welfare*.—The Institute of Child Welfare continued its regular weekly talks, embodying authentic information on the care and bringing up of children. These talks have also been carried by station KSTP, St. Paul.

4. *Books and authors that live*.—Dr. John Walker Powell has given regular weekly talks on great books and great authors.

5. *Music appreciation*.—Informal talks on the fundamentals of music appreciation, illustrated by a large number of electrical recordings of the world's best music. These are adapted to the use of schools throughout the state. WCCO joins in these broadcasts.

6. *Modern languages*.—Informal instruction in two modern languages: Spanish and Swedish during 1934-35, and German and French during 1935-36.

7. *Farm programs*.—Informative talks are given by members of the School of Agriculture on timely farm and home topics.

8. *Organ recitals*.—These are standard organ music broadcasts.

9. *Science series*.—During 1935-36 a series of talks was given on scientific topics of popular interest, including a large variety of subjects.

10. *World events*.—This series of weekly talks on current world news has as its aim to promote a better understanding of international relations.

11. *Parade of the week's news*.—A dramatized presentation of leading news events each week, done by students.

12. *Miscellaneous music program*.—Musical programs, consisting of recordings from the masters, as well as studio performances, are broadcast with more or less regularity every week.

13. *Miscellaneous talks*.—A considerable number of broadcasts in the form of single talks and talks in series are offered from time to time.

## STATE HIGH SCHOOL MUSIC CONTEST

This project, a joint enterprise of the General Extension Division and the Minnesota Public School Music League, held its eleventh and twelfth annual sessions during the biennium. The number of schools participating showed a considerable increase over the previous biennium, when schools were financially handicapped, and reduced activities. In 1934-35, 151 schools enrolled, and in 1935-36, 177, within ten of the high figure of 1930-31.

From the 12 district contests held throughout the state the groups given high rating came to the final contests at the University. There was less increase in the number of the schools represented, because the number of high ratings tends to fix itself. In 1935, 77 schools made a total of 203 appearances in the final contest, and in 1936, 81 schools made a total of 212 appearances.

There continues to be steady improvement in the performance represented at both district and state contests; the poorest now seems about as good as the best of a few years ago. More noticeable is the development of the spirit and attitude of pupils and teachers alike. The purely competitive attitude, that of winning something, has almost disappeared. In its place is growing a spirit of pride in performance and of judgment as to the work of what are still called contestants.

Two innovations have been inaugurated in the past two years. The first is a sight-reading class for bands. In this each band plays a composition, still unpublished, which they are seeing for the first time. It is a test of their understanding of music and its notation as well as of the techniques of their instruments.

The other innovation is a plan for presenting representative music organizations from outside the schools. In 1935 the *a cappella* choir of Central High School, Omaha, probably the outstanding school chorus in the country, was presented. In 1936 the instrumental organizations heard a program played by the Carleton Symphony Band, of Carleton College. In addition, the *a cappella* choir of Hamline University gave a program on the evening of the vocal events.

The quality of music instruction depends, naturally, on the quality of the instructor. The standards set by this contest have resulted in a finer appreciation by pupils, school administrators, and even the school patrons, of what constitutes good music teaching. Better teachers are demanded; and the teachers themselves have been influenced to want to improve themselves.

#### MUNICIPAL REFERENCE BUREAU

Frequent reference must necessarily be made in this report to the League of Minnesota Municipalities because of the very close association of the League and the Municipal Reference Bureau and their co-operation on many projects.

*Inquiry service.*—In 1934-35 a total of 1,960 inquiries were answered by the staff; in 1935-36, the number was 1,545.

*Publications.*—The *Minnesota Year Book*, published annually since 1930, is designed as a reference book on government in Minnesota. The 1934 book contained 507 pages and the 1935 book, 330 pages. Publication costs, financed by the league, have not been returned in sales sufficiently to place this project on a self-sustaining basis.

The Municipal Reference Bureau serves as the editorial office for *Minnesota Municipalities*, a monthly magazine published by the league.

Two booklets prepared by Professor Roy G. Blakey, School of Business Administration, were published by the league in 1935. One was *Inheritance Taxes* and the other *Sales Taxes*.

*Field service.*—Contact with the practical field of government is made by a league staff member. Half the cost is supported by the American Municipal Association of Chicago. Hundreds of officials are interviewed and thousands of miles traveled. Practically full time was given for field work during the last biennium but the necessity of reducing expenditures because of the expiration of a \$45,000 grant by the Spelman Fund of New York given the league for a five-year period will result in cutting this service to half time hereafter.

*Conferences.*—Twelve regional meetings were held last summer (1935) to discuss PWA and WPA procedures; the six regular meetings held during the last winter attracted over 300 officials, representing 101 municipalities. Once a year in June a three-day, annual convention, attended by about 500, is sponsored by the league and the bureau.

*Training schools.*—The Northwest Fire School held its eighth annual session in August, 1935, with a registration of 271. The first annual police school had an auspicious beginning in May, 1936, with an attendance of 82. The proceedings of these schools are published and distributed by the league.

"In-service" training schools, or short courses, for various classes of public officials and employees, are rapidly increasing in number and importance through-

out the country. These are sponsored in a variety of ways, sometimes by educational institutions, sometimes by state departments, sometimes by the officials' professional organizations, but mainly by the leagues of municipalities. The new federal vocational education act (the George-Deen Act) increases the federal grants and makes them available for public service training. This act will undoubtedly be used by many leagues to finance their short course "in-service" programs. In Minnesota, these schools have been begun as projects jointly sponsored by the Reference Bureau and the league, with the finances clearing through the league treasury. Careful consideration needs to be given to the future of these schools, taking account of the several channels, or aids, that might feasibly be brought into the picture, namely, the federal vocational program, university extension, new University Center for Continuation Study, as well as the present sponsorship.

*Local government survey.*—A detailed local government survey was attempted in the spring of 1936 through a federal Works Progress Administration project. Local officials co-operated with WPA workers in the field in supplying data on detailed questionnaires in 65 of the cities and villages having more than 2,500 population in Minnesota. When this material has been analyzed and studied it will be very informational for students of government, and will provide the basis for comparative bulletins to be sent to the municipalities. This survey covered questionnaires as follows:

Section A. General and departmental data.

Section B. Utility statistics and finance.

Section C. Indebtedness data.

Section D. General finance.

*Special services.*—Special services, too numerous to list, are performed by the bureau and league staff members. These include not only co-operating with other agencies and groups, both state and local; furnishing bibliographies; maintaining a public information bureau; making up special reports; and answering inquiries; but also more elaborate service and advice in many cases, such as legislative reference service and consulting service on refinancing, bonding procedures, accounting installations and improvements, zoning, home rule charter drafting, ordinance revisions, public improvement procedure, and many other local problems.

*The needs of the Municipal Reference Bureau.*—The budgetary adjustment of 1933, by which the book purchase fund and the personnel appropriation of the Bureau for Research in Government were transferred to the general library, has resulted in the decline of the municipal reference collection. It is true there have been some current additions, but these have been mainly in the nature of pamphlet and periodical material which could be secured free or in exchange for League of Municipalities publications. The part-time personal service now available through the library is barely able to check in the current material coming into the bureau, not to mention the analytical and research work on the material that it formerly did.

Two things have enabled the bureau to manage in spite of this shift in university staff. The first of these was the grant from the Spelman fund which the League of Minnesota Municipalities received during the five-year period just ended. This made it possible to hire several part-time research assistants, but termination has made it necessary to cancel the last one of these assistantships. The league is now faced with the problem of becoming more nearly self-sustaining, through raising its dues. This creates a serious financial dilemma, and at this time it is impossible to state whether the membership can be held in sufficient numbers to

carry on the desired minimum of league services. The league budget cannot provide the research service that was carried on so fully in the past and which is just as necessary today as ever.

The second thing which has assisted the bureau, in spite of the loss of trained research help, is the federal aid student program. Just how long this emergency program will last is doubtful, but in any case this type of assistance does not provide the substantial and well-trained research staff needed to put the Municipal Reference Library and Bureau facilities to the greatest use.

There is great need for research assistance. The Municipal Reference Bureau unit of the University is essentially a research and service unit, designed particularly to be of help to the governmental services of the state. Its facilities must include, therefore, not only a collection of "raw material" but an impartial and critical interpretation, or digesting, of this material in such form as to be of immediate and practical use to state and local government officials. As in the case of a testing laboratory, a research department must do more than "store"; it must test, analyze, compare, outline, and present alternatives. This is the point of our greatest present weakness and our greatest opportunity for service.

*Summary.*—It seems clear that the mission and scope of the university extension system have broadened. While we still must have in mind the necessities of those members of our population who have been underprivileged, or who have been forced by economic necessity to forego part of their normal educational progress, we must keep firmly in mind that there are now other and larger groups to whom university extension must make its appeal. There may be discerned two trends whose effects will probably be made manifest during the coming biennium. One is indicated in the present movement to take care educationally of that large group of young people between the ages of eighteen and twenty-four who are lacking lucrative employment and who have not the means to sustain themselves while pursuing regular college or university courses in residence. The other trend looks to the increasing number of people between the ages of twenty-five and fifty or sixty who are having more leisure and who are seeking, on the one hand, to equip themselves better vocationally, and, on the other hand, to obtain some knowledge of the political, social, and economic aspects of the society in which they live. While the youth group first mentioned will tend to diminish in size with the return of normal prosperity, and particularly with the return of normal employment, the second group of adults will probably increase in numbers very markedly during the next decade. University extension must be prepared to make its contribution in the service of both of these groups.

Another contribution will undoubtedly be the in-service training of numerous public servants. I look for a great increase in the demands for such service during the coming biennium.

Respectfully submitted,

RICHARD R. PRICE, *Director*

## THE SUMMER SESSION

*To the President of the University:*

SIR: I have the honor to transmit to you herewith the report of the Summer Session for the period from July 1, 1934 to June 30, 1936.

*The Graduate School.*—One of the notable improvements in the last biennium is the rapid growth in enrolment in the Graduate School during the Summer Session. The graduate registration now constitutes about one third of the summer registration. The total registration in the Graduate School on July 14, 1934, was 994 students, on July 18, 1936, 1,429—a 43 per cent increase.

From the beginning of the Summer Session of 1936, qualified students in the Graduate School were permitted to earn the Master's degree in certain departments by one of three plans known as Plans A, B, and C, as described in the biennial report of the dean of the Graduate School. The opportunities offered under Plan B explain in some measure the increase in the graduate enrolment for 1936.

A great portion of the concentration in the Graduate School is in education, but there is a fair and reasonable distribution in all departments of study.

A study of the course offerings for graduate study in the Summer Session shows that there is a decided need for more emphasis on graduate courses in the second term of the Summer Session especially those courses included in the 100 series. The demand for graduate courses in the second term is present. The departments need only to provide the course of study.

*Undergraduate instruction.*—Undergraduate instruction was offered in the thirteen academic divisions of the University.

*Registration.*—The trends in registration are indicated in Table I which gives the students registered in the first term of the Summer Session of 1934 and the first term of 1936.

TABLE I. FIRST TERM REGISTRATION FOR 1934 AND 1936

	1934	1936	CHANGE FOR BIENNIUM	PERCENTAGE CHANGE
General College .....	8	20	+ 12	+150
University College .....	7	11	+ 5	+ 71
College of Science, Literature, and the Arts....	622	693	+ 71	+ 11
Institute of Technology .....	139	122	— 17	— 12
College of Agriculture, Forestry, and Home Economics .....	138	188	+ 50	+ 36
Law School .....				
Medical School .....	214	296	+ 82	+ 38
School of Nursing .....	454	386	— 68	— 15
School of Dentistry .....	47	78	+ 31	+ 68
School for Dental Hygienists .....	1	8	+ 7	...
College of Pharmacy .....	10	12	+ 2	+ 20
College of Education .....	934	1,573	+ 639	+ 68
School of Business Administration .....	66	72	+ 6	+ 9
Graduate School .....	994	1,429	+ 435	+ 43
Total collegiate .....	3,634	4,888	+1,254	+ 34
University High School .....	148	122	— 26	— 18

The second term registration is usually between one fourth and one third that of the first term.

Rapid growth has occurred in nearly all departments and the percentage of increase is well distributed over the two-year period. The increase of 1935 over 1934 was more than 26 per cent, and the increase of 1936 over 1935 is more than 11 per cent in the first term and 17 per cent in the second term. The statistics of 1934 and 1936 on file in the Summer Session office show the second term registration to be approximately one third of the first term registration, but the percentage increase in enrolment for the second term is slightly greater than that of the first term. The second term renders service to more than 1,200 students at a period in the summer when the weather is better adapted to study than in the first term.

*University High School.*—Provision for maintenance of a summer session of the University High School was first made in 1932. The summer high school has become self-supporting in the same degree as other departments of the Summer Session. It has provided not only a laboratory for practice teaching in the College of Education, but also performs a service to Twin City high school students who wish to devote a part of their summer vacation to profitable study. The courses are organized to provide individual attention to the needs and capacities of the students. The courses in special methods are correlated with the high school classes in appropriate fields. The enrolment of high school students has not increased in the last biennium.

*The elementary summer demonstration school.*—In 1930-31 and 1931-32 a summer elementary demonstration school was conducted by the University at the Marcy, Motley, and Tuttle schools. No demonstration school was formally conducted in 1933 and 1934, but it was revived in 1935 and 1936 with success at the Tuttle School. The University was granted the use of the building, equipment, and books by the Board of Education. The financing of the school depends on tuition. The period of the school term is five weeks and the number of teachers is adjusted to meet the income after the pupils are enrolled. In 1935, 93 pupils were enrolled; in 1936 there were 94. This demonstration school is of particular value as a laboratory for students in the College of Education who are studying teaching methods.

*Owatonna art education.*—As a part of its regular Summer Session the University of Minnesota offered a group of courses for teachers at Owatonna, Minnesota, in the first terms of the 1935 and 1936 Summer Sessions. These were in connection with the Owatonna Art Education Project and were open to teachers of experience or students who had completed their preparation for teaching. They were intended primarily for teachers in the grades and high school who have not had special preparation in art. The courses carried university credit for those who matriculated as regular students by meeting the University's entrance requirements, and in all other ways were regarded as regular university offerings.

*Itasca Park Forestry and Biological Station.*—The University of Minnesota has maintained for more than twenty-seven years a forest school summer session at Itasca State Park for field instruction and research in forestry, botany, and entomology. This opportunity was primarily open to forestry students during the first term, of six weeks, of the Summer Session.

The highly diversified flora of the state of Minnesota with merging of prairies, hardwood and coniferous forests, together with the glaciated and unglaciated areas, sand dunes, and numerous inland lakes, both large and small, provide a

wide variety of habitats for plant and animal life, resulting in a great diversity of plant and animal types which is especially attractive to biologists and students as well as to all others interested in nature study and conservation. In recent years there has been an increasing demand on the part of interested students and teachers of biological subjects for the continuation of opportunities for study during the second term of the University's regular Summer Session. Therefore, in the second term of the 1935 session a six-week field course of study was established under the name of the Itasca Park Forestry and Biological Station. Seventeen students attended the first term. This course of study was offered a second time in the second term of the 1936 session with three times the enrolment of the 1935 session. The station was conducted co-operatively by various departments in the College of Agriculture, Forestry, and Home Economics and the College of Science, Literature, and the Arts of the University of Minnesota.

### OTHER SPECIAL PROJECTS AND SPECIAL FEATURES

#### AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

The meeting of the American Association for the Advancement of Science occupied the campus for six days from June 24 to June 29 during the summer of 1935. Five public evening meetings and a Thursday morning convocation of two hours were a feature of this conference. Prominent among the speakers and their subjects were:

- Karl T. Compton—"Conservation"
- William P. Murphy—"Diseases of the Blood"
- Richard P. Strong—"Importance of Ecology in Tropical Diseases"
- Isaiah Bowman—"The Land of Your Possession"
- C. K. Leith—"Mineral Conservation"
- Charles E. Merriam—"National Planning"
- William F. G. Swann—"The Nature of Cosmic Rays"
- Phillip Fox—"The Scale of the Universe"

#### LUTHERAN MINISTERS' CONFERENCE

In an effort to map out a revised curriculum in the light of present-day conditions for Lutheran institutions of higher education, twenty Lutheran educators, representing colleges in New Jersey and nine states in the middle west, met on the University of Minnesota campus during the 1935 Summer Session for a conference on Christian education. The present University of Minnesota conference represents the second in the group's history. A similar conference took place at the University of Chicago two years ago. The conference was a part of a current effort of Christian colleges in America to examine themselves in relation to present-day conditions. The colleges represented at the conference included Dana College, Blair, Nebraska; Midland College, Fremont, Nebraska; Wittenburg College, Springfield, Ohio; St. Olaf College, Northfield, Minnesota; Augustana College, Sioux Falls, South Dakota; Augsburg College, Minneapolis, Minnesota; Concordia College, Moorhead, Minnesota; St. Paul Luther College, St. Paul, Minnesota; Gustavus Adolphus College, St. Peter, Minnesota; Luther College, Decorah, Iowa, and Upsala College, East Orange, New Jersey. Out of the conference is expected to come a comprehensive report recommending certain changes in curricula. These changes will be put into effect in the various Lutheran colleges and the results tested for one year, at the end of which time another conference will be held to set up permanent standards.

Special facilities, including the privilege of attending classes without charge or registration fees unless individual members took courses for credit, were extended to the group by the University. Dean Melvin E. Haggerty of the College of Education, Dr. Malcolm S. MacLean, director of the General College, and Professor Wesley E. Peik of the College of Education were advisers to the group.

#### INSTITUTE FOR RELIGIOUS LEADERS

The University of Minnesota, during the period of July 9 to 19, 1935, offered a ten-day short orientation course in problems of contemporary society for clergymen and lay leaders interested in the adult education movement in both rural and urban communities. It consisted of a series of three lectures each morning on sociology, psychology, and economics. The ten afternoons were devoted to lectures, laboratory work, and study of agricultural problems at the Farm campus in St. Paul. The primary purposes of this institute were to make known to the religious leaders the facilities at the University of Minnesota for use in the adult education movement and to encourage close co-operation between the University and all religious organizations. The institute proved popular and the registrants requested its repetition in 1936, but because of the extreme heat it was not so well attended as in 1935.

#### CONFERENCE ON INTERNATIONAL RELATIONS

On July 9 and 10, 1936, there was held on the campus a conference on the general subject of "The Economic Basis of Peace." The purpose was to discuss the problems of raw materials, population pressure, and foreign investment and their influences on international relations and world peace. The subjects discussed and the principal speakers were: Charles F. Remer, "The Economic Problems in the Orient in Relation to World Peace"; Warren S. Thompson, "Population Pressure and World Peace"; J. T. Madden and Eugene Staley, "Foreign Investments and War"; Graham Stuart, "Can We Remain Neutral?"

Other special features in the 1935 Summer Session were a series of six lectures on the enjoyment of literature by Maud Scheerer of New York, a series of six lectures in the first term on the geography of Australia by Dr. Marie Bentivoglio, lecturer in the Sydney Teachers College at Sydney, Australia, and a series of six lectures by Dr. Thomas F. Kane on the subject of "Higher Education and the Changing World."

*Convocations.*—Convocation speakers and their subjects for the 1935 convocation programs were: S. Miles Boulton, "Why War?"; C. K. Leith, "Mineral Conservation"; Charles E. Merriam, "National Planning and Conservation"; Melinda Alexander, "Shall We Establish an Academy of Statecraft?"; Clark Hallam, "Are We at War in the Orient?"

Karl T. Compton, president of the American Association for the Advancement of Science presided at the Conservation Convocation held in co-operation with the American Association for the Advancement of Science.

John W. Studebaker delivered the commencement address July 25, on the subject "Liberalism and Adult Civic Education."

The speakers and their subjects for the 1936 convocation programs were: David Cushman Coyle, "Technology and Culture"; David Seabury, "Keeping Up with Your Mind"; Kenneth Myers, "The New Palestine"; Clyde Walter ("Slim") Williams, "Alaska, Our Last Frontier"; Lorado Taft, "My Dream Museum"; C. William Duncan, "Close-Ups of Famous People"; F. Sturgis Beers, "A Challenge

from the Old South." The commencement address, "The Social Heritage," was delivered by Dr. Charles H. Judd.

*Recreation program.*—The usual recreation program of athletics, Saturday social evenings, and educational excursions was conducted by Mr. Ralph Piper of the Department of Physical Education and Athletics.

*Drama and music.*—The technical and financial responsibility for the dramatic performances continued with the University Theatre during the entire biennium with satisfactory results. Four dramatic productions were given in the summer of 1935 and three in the summer of 1936.

As a feature of the 1936 program the University presented a series of six symphony concerts by the Twin Cities Civic Orchestra, a WPA project. The concerts were held in Northrop Memorial Auditorium under the direction of the state director of the WPA Music Project, with attendance of approximately twenty-five hundred persons.

The Tuesday and Thursday afternoon lectures, and Wednesday music recitals and the Monday afternoon collegium musicums attracted from two hundred to five hundred students each afternoon during the Summer Sessions of the biennium.

#### CHANGES AND IMPROVEMENTS IN THE CURRICULUM

Throughout the biennium it has been the endeavor of the Summer Session to adjust the curriculum to meet the changing needs of society.

*Teacher training in visual education.*—Because of the ever increasing demand for a simple but complete course of instruction on the presentation of motion pictures in the classroom, a special series of lectures was given in 1935. Out of this there developed a course of study in visual instruction in the College of Education in the 1936 Summer Session.

*Graduate work in economics.*—An enlarged program of economics courses of special interest to graduate students was offered during the Summer Sessions of 1935 and 1936. These offerings were in addition to the usual program of courses in economics for undergraduates. This enlarged program included advanced courses in private finance or money and banking, public finance and taxation, the economics of public utilities, labor problems, accounting, and economic theory. In addition to these courses which were offered during the academic year three special graduate courses were added. Two of these were directly concerned with the current economic situation, one in income and consumption and the other dealing with a critical analysis of recent economic legislation. A special research seminar was also offered in price dispersion in relation to business cycles. Special provision was also made for students working on research projects and theses.

*Institute of Child Welfare.*—Because of the interest in child development and parent education the Institute of Child Welfare offered a broad program of courses during the first term of the Summer Session of each year. A limited number of courses was offered during the second term. Special facilities were offered for teachers who were working in emergency education programs and for others who were interested in or wished to gain some knowledge of emergency programs.

*Physical education.*—During the first term of the 1935 Summer Session at the University of Minnesota the Department of Physical Education and Athletics offered a broader curriculum than ever before. In the 1935 session the usual courses in athletic coaching were conducted by the head coaches of various sports. In addition other courses were offered covering the fields of organization and

administration, methods of teaching, tests and measurements, and other angles of physical education theory. In the first week of the 1936 Summer Session a coaching school was established in which approximately one hundred students interested in coaching of athletics were enrolled.

*Undergraduate work in speech.*—Many teachers have inadequate personalities, voices, and diction. It is important, in order to function effectively as a teacher of young children, that these irregularities in speech and personality be considered as a correction problem. More advanced specialized training in speech correction offered opportunities for teachers who wished to prepare themselves for this work.

*Adult education.*—Adult education is probably the most rapidly expanding field in the whole area of public and private education today. Many teachers, supervisors, and administrators are connected with some form of adult education program, others are contemplating the possibility of doing some work in the field. In view of the needs of this increasingly large group of adult education workers, several courses were planned especially for teachers and supervisors of adult education programs, and were conducted throughout both Summer Sessions of 1935 and 1936.

In order to serve both adult education and the work of the organized school, the University of Minnesota, in co-operation with the American National Red Cross, offered to graduate registered nurses a program in the theory and practice of teaching.

Respectfully submitted,

THOMAS A. H. TEETER, *Associate Director*

## THE DIVISION OF LIBRARY INSTRUCTION

*To the President of the University:*

SIR: I submit a report of the Division of Library Instruction for the biennium 1934-36.

*Enrolment.*—Employment conditions of the past two years have made the attendance smaller than in the years immediately preceding “the depression.” The temporary decrease in enrolment has been salutary in lessening somewhat the number of unemployed graduates. Fewer students are leaving before completing the course.

*Placement.*—Placement conditions have improved. Thirty-three of the 39 graduates of 1935 are in positions, one is doing graduate work and one is physically incapacitated. Even more encouraging is the fact that promotions of members of earlier classes are reported.

*Formal accrediting.*—In the summer of 1935 the division was formally accredited by the Board of Education for Librarianship of the American Library Association in response to an application from the division and an inspection by representatives of the board. Altho entirely without legislative jurisdiction the board is the only national accrediting body for librarians, and the benefit of accrediting, tho too late to have much effect on the division during 1935-36, is beginning to be apparent. Inquiries about the school and applications for admission are coming from a wider range of territory. The same is true of the requests for names of candidates for prospective library positions.

Several recent periodical articles on studies of library school curricula seem to show that we have been relatively quite successful in co-ordinating the various courses in our own curriculum and in making the class work and problems of practical value to our own and other libraries. Preparation of bibliographies actually needed by specific libraries, instead of artificially stimulated lists of subjects, and making a subject catalog for the reference department are two examples.

*Alumni Association.*—The Alumni Association of the division, organized and conducted entirely by former students, has been of help in keeping contact between its members and the division, as well as in publishing an alumni register and a bibliography of free and inexpensive material useful to libraries. The latter received favorable notice in the *Science News Bulletin*.

A mimeographed syllabus for the undergraduate course in the Use of Books and Libraries, prepared by the instructors in the course, has run through several editions and has been adopted for use in several other colleges and universities, notably the University of California.

An amendment to the State Education Law has established new standards for school librarians. Plans have already been made and announced for a modification of the curriculum of the division to meet the changed requirements.

Respectfully submitted,

FRANK K. WALTER, *University Librarian*

## THE INSTITUTE OF CHILD WELFARE

*To the President of the University:*

SIR: I submit the report for the Institute of Child Welfare for the biennium 1934-36.

During this period the institute continued four main lines of activity: research in child development, the instruction and training of workers with children, a program of parent education, and a parents' consultation service for the consideration of child adjustment problems. As a center for the observation of children, the demonstration of teaching and training methods and for research, a nursery school and an experimental kindergarten were maintained. In addition research projects were carried forward in co-operation with school systems, communities, social agencies, and state departments.

*The Nursery School and Kindergarten.*—The Nursery School and the Kindergarten were in session during the academic years 1934-35 and 1935-36 and during the first term of the Summer Sessions of 1934 and 1935. The Nursery School through the academic year had a full enrolment of 36 children with some decrease in the summer, and the Kindergarten enrolment varied from 14 to 20 children each term.

*Research.*—During the two-year period the institute was active in research. Thirty new 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

Anatomy .....	28
Dentistry .....	7
Pediatrics .....	20
Psychology .....	18
Home Economics .....	9
Physiological Chemistry .....	2
Education .....	11
Sociology .....	18
State Board of Control .....	7
Physical Education for Women .....	1
Institute of Child Welfare .....	162
	283
Less duplication caused by projects in which two or more departments are involved .....	15
Total .....	268

Of the 268 projects started since the inception of the institute, 165 have been completed, 40 are in progress, 9 have been combined with other projects, 39 have been dropped, and 1 has been divided into several projects. Of those completed, results have been published for 106, there has been partial publication for 7, 8 are in press, 14 are in preparation for publication, and 24 are in thesis form being made ready for publication.

*Instruction and enrolments.*—Courses are offered at three levels: general courses for undergraduates, specific training courses for nursery school and kinder-

garten teachers, and courses for graduate students looking toward college teaching, research, or parental education. During 1934-35, the total enrolment in institute classes was 1,194; in 1935-36, 1,528.

During the biennium, 50 students completed the curriculum in nursery school and kindergarten education and received the B.S. degree in the College of Education. Six students with majors in child welfare received Ph.D.'s and 9 with majors received M.A.'s.

*Parent education.*—The parent education program of the institute is summarized in Table II. The work continued as outlined in the report for the biennium 1932-34.

TABLE II. GENERAL SUMMARY OF PARENT EDUCATION ACTIVITIES

	1934-35		1935-36	
	No. Groups	Enrolment	No. Groups	Enrolment
Extension courses:				
Credit .....	6	57	5	68
Correspondence study courses:				
Credit .....		12		27
Noncredit .....		338		436
Study groups:				
Minneapolis .....	11	255	17	410
St. Paul .....	7	170	9	136
Other places .....	3	114	3	75
Lectures series:				
Minneapolis .....	5	85	5	82
St. Paul .....	4	254	5	148
Other places .....			2	123
Agricultural extension .....	103	1,528	52	763
Preparental groups (schools) .....	4	965	11	1,459
Radio listening-in groups .....	23	231	17	187
Grand total .....		4,009		3,914

*Radio.*—Listening-in groups, organized in co-operation with the State Congress of Parents and Teachers were continued over KSTP and attracted much interest. The weekly institute radio program known as the "Betterson Family" was continued over WLB, the university station, and rebroadcast over KSTP in Minneapolis and St. Paul, and WEBC in Duluth.

*Parents' Consultation Service.*—This program was described in the last biennial report. In 1934-35, 32 cases, and in 1935-36, 50 cases were cleared.

Members of the institute staff cooperated with the United States Office of Education, the State Department of Education, the National Council of Parent Education, and the National Advisory Committee on Emergency Nursery Schools in the development of the emergency nursery school and parent education program fostered by the Federal Government.

*Other activities.*—During the biennium the institute participated in many exhibits. In 1934-35, 205, and in 1935-36, 180 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.

*Conclusion.*—As a result of its steadily growing activities much recognition of a national and international character has come to the institute. The special

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grant made by the 1935 Legislature for the continuance of its work, bears witness to the institute's high reputation within the state. Through its research, its extensive program of parental and preparental education, its courses for university students, and its consultation service for parents, the institute is rendering an important service to the parents and children of Minnesota.

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 1934-36.

*General plan.*—The procedures of the committee during the biennium have remained essentially the same as described in previous reports. Studies have been developed on a project basis. Special staff groups, composed of members of the committee and other interested members of the faculty, have been created as subcommittees for the general direction of the individual studies. To such subcommittees have been added graduate students and members of the staff who were able to give continuous time to the promotion of the research.

A comprehensive report of the activities of the committee during the past four years has been compiled and will soon be issued as a separate bulletin. It will contain a detailed review of the projects briefly mentioned here.

*Examination studies.*—The University Committee on Educational Research began its studies of college examinations in 1931. Five years of investigation have been marked with developments in examination construction and use, some of which have been recorded in bulletins and other publications.

From the establishment of the General College in 1932, the committee has actively co-operated with its staff in constructing improved examinations. The results of this co-operative endeavor are reported in two bulletins. *Studies in College Examinations*, containing discussions of the construction and use of college examinations, was issued in 1934 as a report of progress. A second bulletin on *The Curriculum of the General College As Reflected in the Examination Program* is now in press.

Working in co-operation with the committee, the School of Business Administration has sought to improve the comprehensive examinations given to seniors. Preliminary activities during 1934-35 culminated in an examination in business administration that was given in May, 1936. The results are now being analyzed.

Throughout the biennium the committee has also carried forward examination studies in co-operation with staff members in zoology, mechanical engineering, education, and preventive medicine and public health.

*Board of Admissions projects.*—Organized in 1932 to act as an administrative body in problems relating to entrance to the University, the Board of Admissions was confronted with facts and opinions regarding past and current practices in the selection of students for the various colleges and professional schools, but was in possession of little evidence as to the efficacy of the methods. Throughout the biennium the committee and the Board of Admissions have co-operatively conducted extensive studies in the separate colleges of the University. New forms of tests have been developed and evaluated in terms of the extent to which they can be used in predicting the scholarship of students. Detailed reports are now in preparation.

*Administrative problems.*—The committee has likewise conducted a group of investigations concerned with administrative problems. A study on teaching load at the University and a survey of size of classes were carried on throughout 1935-36 in co-operation with the president's office. A study begun in 1930-32 on the use of the university libraries was continued during the biennium with the co-operation of Mr. Frank K. Walter. Another investigation on the accreditation

of colleges on the basis of success of their graduates in graduate schools was completed in 1935.

*Curriculum and instructional problems.*—Studies of curriculum and instructional problems were designed to determine: (1) the relation of prerequisite chemistry courses to undergraduate home economics courses, (2) the technique for analysis of course content and articulation, (3) the relative efficiency of moving pictures and personal demonstration as a means of teaching techniques in practical nursing, (4) the value of a number of subjects usually taken during the freshman and sophomore years in a course of study leading to the degree of bachelor of mechanical engineering, (5) the progress of students in laboratory and non-laboratory sections of freshman composition, (6) the proficiency of college freshmen and graduating high school seniors in certain elements of English composition, (7) the contribution of physical education to physical fitness or efficiency, (8) the kind of a physical education program that should be developed for representative communities in Minnesota, and (9) the relative values of certain teaching devices in enabling students to master a technical vocabulary and to apply important facts and principles.

*Personnel problems.*—Among the studies of personnel problems conducted through the offices of the committee and on which substantial progress has been made during the biennium are the following: (1) a follow-up study of probation students, (2) a study of applicants for federal aid at all Minnesota colleges, (3) a study of athletes at the University of Minnesota from 1925 to 1935, (4) a series of high-school-college relationship studies.

*Conference on collegiate educational research.*—The second Minnesota Conference on Higher Education, sponsored by the University of Minnesota with the assistance of the Carnegie Foundation, met in sessions held at Pioneer Hall during the week of September 9 to 14, 1935. The personnel included 54 leaders in education and educational research who represented 29 different institutions of higher learning. The summary reports presented by the group chairmen at the close of the conference reviewed the progress that had been made through research in higher education and defined problems requiring further study.

As in previous years, the activities of the University Committee on Educational Research have involved the co-operation of literally hundreds of university staff members. It becomes increasingly more apparent that no effective investigation of college administrative, instructional, or personnel problems can be made except through the co-operation of the technically trained investigator and college instructors and administrative officers. With such co-operation the committee has been able to assemble and interpret a mass of data that makes it possible for the University to evaluate its methods and to know more about itself and the students it serves.

Respectfully submitted,

MELVIN E. HAGGERTY, *Chairman*

## THE UNIVERSITY WORK-RELIEF PROGRAM

*To the President of the University:*

SIR: The following report summarizes the university work-relief program as extended throughout the biennium 1934-36.

*WPA research projects.*—Beginning on December 17, 1935, and continuing to the end of the biennium, faculty members were assisted on research projects by relief workers assigned to the University through the Works Progress Administration. These men and women worked on a full-time schedule of 30 hours per week. They were paid \$71.50, \$93.50, or \$103.40 per month depending upon their skill and previous training. During the period, 152 WPA workers were assigned to 34 research projects conducted by staff members in 26 departments on the Main campus. On the Farm campus, 87 workers were employed on 19 research projects. All of these projects are being continued beyond July 1, 1937. The reports of progress that have been filed by supervisors indicate that the services rendered by the WPA workers have been of inestimable value in furthering their research programs.

*Work scholarships.*—During the first five quarters of the biennium the University continued its policy of granting 50 work scholarships to students each quarter. The recipients were employed on the same basis as the federal aid students and were assigned to the same projects. They were able to earn a maximum of \$50 a quarter. Because the same general regulations governed the selection and placement of these students as applied in the case of federal students, it can be assumed that the characteristics of the federal aid group are typical of the work scholarship students.

*Federal and state student aid.*—The program of work relief for college students initiated in 1933-34 under the Federal Emergency Relief Administration was extended during the following year. The University was allotted a quota of 1,158 federal aid students who were to earn an average of \$15 per month with a minimum of \$10 and a maximum of \$20. A special office in the State Department of Education continued to administer the aid in Minnesota and supplementary funds were again made available by the state so that it was possible for an undergraduate student to earn a maximum of \$25 a month.

In August, 1935, the National Youth Administration was organized to assume the authority over the federal aid program for college students. Immediately state offices of the NYA were set up entirely apart from the offices of state departments of education. President George A. Selke of the St. Cloud Teachers College was appointed state director in Minnesota. The details of the program as it affected the University were developed with Mr. Selke and his associates. The quota for the University was increased and provision was made for the appointment of first and second year graduate students at maximum rates of \$30 and \$40 a month, respectively. As during the previous two years the state supplementary aid was continued and administered through the State Department of Education. For the most part, the actual administration of the work-relief program at the University was not changed. The special administrative committee appointed in 1933, consisting of the following members, continued to serve: Dean Malcolm M. Willey, chairman, William T. Middlebrook, William F. Holman, Rodney M. West, Harold R. Benjamin, and Mrs. Dorothy Johnson. At the beginning of the fall quarter, 1935, Dean Willey was granted a part-time leave of absence and Alvin C.

Eurich was appointed to undertake certain of his duties; among them were some of the administrative responsibilities for the work-relief program.

*The selection of students.*—During each successive year of the federal aid program the number of applicants for part-time work at the University increased. The first year 1,696 application blanks were received; the second year, they totaled 3,184. In 1935-36, application blanks for aid were distributed, largely upon request, to approximately 7,000 individuals. Of these, 3,321, or 47 per cent, definitely filed their applications by returning the blanks. Undoubtedly most of the other students who requested blanks discovered that their situations did not meet the requirements for aid. It was still necessary, however, to select the students to be granted aid since appointments were available for only about 1,400 of the 3,321 who applied.

The general principles outlined by Dean Willey in the report of the previous biennium continued to serve as guides in making appointments. Each application blank received was referred to the registrar's office where a report of a previous college record or high school rank was transcribed to the blank. Each blank was then studied and if the applicant was classified into one of the following groups he was declared ineligible for college aid:

1. Students coming directly from high school where in terms of scholarship they ranked in the lower half of their graduating class.
2. Students with previous college records whose average scholarship ratings were below "C."
3. Applicants who obviously had other means of support.
4. Students who in previous years had received federal aid and whose ratings for such work were "D" or "F."

Even after these four groups were segregated, more students remained on the eligible list than could be appointed. Appointments were given first, therefore, to the most needy and the most promising from the standpoint of scholarship as determined by their previous records. In a follow-up study it was found that of the group definitely declared ineligible, 273 registered at the University during the fall quarter of 1935. In addition, 282 students who had been placed on a waiting list, but were not appointed, attended the University. The total of 555 is 29 per cent of the group that applied for aid but were not appointed. In view of the fact that all applicants signed a statement to the effect that they could not attend college unless they received aid and had such statements attested to by two public officials, it is interesting to speculate concerning the proportion of students actually receiving aid who might have attended college even tho the aid had not been granted. It is clear that one cannot assume that all of them would have found it impossible to attend the University. However, all evidence that has been collected points to the fact that the group selected was definitely in need and was able to profit from further college training. Without such assurance it would not be possible to justify the granting of aid.

*Number of students appointed.*—The actual number of students receiving aid has also increased steadily during the biennium. The number of appointments as of June 1, 1935, was 1,056. Throughout 1935-36 the number was considerably greater as can be seen in Table I, which gives the total number on the payroll for each month. The highest point was reached in March when 1,413 students were receiving aid through the NYA program. In addition, 53 students were given special appointments in the schools of agriculture from January to April, 1936, through a grant from the WPA. If the 50 work scholarships are included, a grand total of 1,516 students were receiving aid in March.

TABLE I. NUMBER OF FEDERAL AID STUDENTS ON PAYROLLS FROM SEPTEMBER 23, 1935 TO JUNE 5, 1936

PERIOD	GRADUATE	UNDERGRADUATE		SCHOOLS OF AGRICULTURE				TOTAL
		Main Campus	Farm Campus	Central	Morris	Crooks-ton	Grand Rapids	
9/23-10/19	83	824	110	79	72	53	12	1,233
10/20-11/19	86	846	121	78	71	53	12	1,267
11/20-12/19	84	862	122	77	71	52	12	1,280
12/20- 1/19	103	887	137	79	73	54	12	1,345
1/20- 2/19	112	902	145	79	72	54	12	1,376
2/20- 3/19	109	935	158	77	68	54	12	1,413
3/20- 4/19	112	1,093	184	.....	.....	.....	.....	1,389
4/20- 5/19	106	1,088	183	.....	.....	.....	.....	1,377
5/20- 6/ 5	100	1,021	175	.....	.....	.....	.....	1,296
Average per month	.....	.....	.....	.....	.....	.....	.....	1,331

*Residence of students.*—Aside from appointing needy and able students, an attempt was also made to select them from various counties of the state in the proportions in which the counties are represented in the total student body. Table II reveals the extent to which the federal aid students were selected from Hennepin and Ramsey counties—the counties in which the Twin Cities are located—from other Minnesota counties, and from out of the state, and the table sets off, in contrast, the comparable proportions for the entire student body during the year 1934-35. Whereas 57.3 per cent of the entire student body reside in the two local counties, the comparable figure for federal aid students is 51.3 per cent. The other Minnesota counties have been favored with 41 per cent of the appointees altho they are represented in the student body by only 27 per cent. As might be expected, only about one half the proportion of out-of-state students was appointed in terms of the total student body. Clearly, then, the federal aid appointees were well distributed throughout the state and for the most part confined to residence in Minnesota.

TABLE II. DISTRIBUTION OF RESIDENCES OF FEDERAL AID STUDENTS AS OF MAY 1, 1936, COMPARED WITH ALL STUDENTS AT THE UNIVERSITY OF MINNESOTA IN 1934-35

RESIDENCE	FEDERAL STUDENTS		ENTIRE STUDENT BODY
	No.	Per Cent	Per Cent
Hennepin County	561	40.3	41.1
Ramsey County	153	11.0	16.2
Other Minnesota counties	570	41.0	27.0
Out of state	107	7.7	15.6
Total	1,391	100.0	99.9

*College, class, and sex.*—As during the first year that federal aid was available, the largest number of appointees for 1935-36 were students in the College of Science, Literature, and the Arts (586). The second largest group were students in the College of Agriculture, Forestry, and Home Economics (177) with the College of Education and the College of Engineering and Architecture tied for the next position (119). The Graduate School occupied the next place (79) with the School of Chemistry (63), the General College (55), and the Medical School (54) follow-

ing in the order named. The proportions of federal aid students in the various colleges follow closely the proportions that might be expected in terms of the total enrolments.

The classes are also represented among the federal aid group in proportion to their total numbers: freshmen (524), sophomores (318), juniors (280), and seniors (179).

Ordinarily about 60 to 65 per cent of the total student body are men. As of May 1, 1936, 987 federal aid students, or 71 per cent of the total group, were men, indicating that they have been favored over the women of whom 404 were given appointments. This difference between the sexes is probably a reflection of the difference in the number of application blanks received.

*Amount of aid received.*—In Table III the students are distributed according to the amount of federal and state aid received. Slightly less than one half were able to earn not more than \$15 per month. These were largely Twin City students whose expenses were relatively small compared with those of their fellow students who were not living at home. The appointees in the upper brackets receiving \$30 to \$40 per month were first and second year graduate students.

TABLE III. DISTRIBUTION OF STUDENTS ACCORDING TO THE AMOUNT OF FEDERAL AND STATE AID THEY RECEIVE MONTHLY

AMOUNT OF AID PER MONTH	No.
\$40 .....	10
35 .....	2
30 .....	43
25 .....	363
20 .....	322
15 .....	507
10 .....	144
Total .....	1,391

*Arrangements for tuition.*—As the federal aid program developed the University of Minnesota was exceedingly liberal in its policy of permitting students to defer the payment of their tuition fees. In 1933-34, 34.4 per cent of the group deferred the payment of their fees whereas only 22.9 per cent did so in 1935-36 (Table IV). However, a larger proportion (42.6 per cent) than was the case two years earlier (34.8 per cent) paid their tuition in installments. This difference in all probability reflects the change in policy that was made in December, 1935. With the burden of carrying the deferred fees becoming increasingly greater and with a large number of students reaching the point of graduation without being able to pay their fees, the Board of Regents took action preventing any new appointees from deferring the payment of their fees. In addition they made arrangements for loans to students who reached the point of graduation with unpaid fees. This action made it possible for students who had completed all of their college work to receive their degrees and enter their chosen professions.

By the end of the year, 50 students had been granted loans under the new arrangements. Furthermore, students needing medical and dental care were granted loans in case they were unable to pay for such services.

*The work projects.*—To locate projects on which the federal students might render worth-while service to the university community, the faculty were requested to file with the committee a statement of their projects indicating the number and

type of workers they desired. Most of the projects were approved, even though not all of the workers requested could be assigned. College students were assigned predominantly to clerical and office work (320), technical laboratory or research work (287), statistical work (215), library and museum work (140), and general service (138). The work done by students receiving aid in the schools of agriculture was of a less technical nature. It is significant to notice that the University has consistently maintained the policy of not having the federal aid students displace any regular employees. That the staff members have been able to employ so large a group of students at socially useful work is evidence of the insufficient number of assistants they have previously had available to perform the quantity and quality of service they deem desirable. If and when federal aid is withdrawn, the college faculties will find it necessary to curtail many of their services. Frequently it is implied that with the amount of student aid available, the burden of the faculties has not been as great as heretofore. To the contrary, most of the staff members find that they have increased their load and, with the aid of federal students, they are expanding the scope of their services.

TABLE IV. ARRANGEMENTS MADE FOR FEES AND TUITION BY FEDERAL AID STUDENTS IN 1933-34 AND 1935-36

ARRANGEMENT	1933-34		1935-36	
	No.	Per Cent	No.	Per Cent
Tuition paid .....	285	30.8	480	34.5
Tuition in installments .....	322	34.8	592	42.6
Tuition deferred .....	318	34.4	319	22.9
Total .....	925	100.0	1,391	100.0

*Work ratings.*—From the beginning it has been understood that federal aid for college students was not a dole but an opportunity for individuals to earn part of their expenses while attaining a higher education. It is pertinent to inquire, therefore, whether, in the judgment of their supervisors, the students appointed to the part-time positions rendered services that were satisfactory. Each spring during the past three years, all staff members under whom federal students were employed were asked to rate the workers on the following scale: A, excellent; B, better than average; C, satisfactory or average; D, poor; F, so unsatisfactory that the worker might well have been removed from the project at the outset. A summary of the ratings is given in Table V. At the end of the first year, 72.2 per cent of the students were given ratings of A or B; 77.4 per cent at the end of the second year and 78.1 per cent at the end of the third year received ratings of better than average and excellent. Obviously the students as a group have been giving a high grade of service in return for their compensation. Furthermore, over the three-year period the quality of their work has improved somewhat. This improvement is undoubtedly due, in part, to modifications in the selection and placement process that have been made in the light of the experiences with the earlier groups. The chief responsibility for both selection and placement has rested with Mrs. Dorothy Johnson, director of the University Employment Bureau.

Satisfactory placement of students on socially useful jobs has wider significance than figures reveal. The fact that the students are doing work of interest to them and are obtaining results that are satisfactory both to them and to their supervisors has a psychological effect which is readily evident to those who have had close contact with the program.

*Scholarship of students receiving aid.*—Because federal and state aid was made available for college students who were able to profit from attendance at institutions of higher learning, successive studies of the scholarship of students receiving aid have been made. Invariably the studies have shown that the scholarship records of these students are not inferior.

TABLE V. DISTRIBUTION OF WORK RATINGS FOR FEDERAL AID STUDENTS IN 1934, 1935, AND 1936

RATING	COLLEGE STUDENTS						SCHOOLS OF AGRICULTURE	
	1934		1935		1936		1936	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
A .....	306	33.1	385	42.5	604	43.4	40	19.0
B .....	361	39.1	316	34.9	483	34.7	109	51.7
C .....	191	20.6	167	18.5	258	18.5	44	20.9
D .....	55	5.9	31	3.4	38	2.7	12	5.6
F .....	12	1.3	6	.7	8	.6	6	2.8
Total .....	925	100.0	905	100.0	1,391	99.9	211	100.0

In connection with the follow-up study of federal students, a summary was prepared of the average grades made by the students in all of their university work up through the end of the fall quarter, 1935 (Table VI). The median honor point ratio was found to be 1.43 which represents an average grade almost midway between C (1.00) and B (2.00). For the College of Science, Literature, and the Arts freshmen, Dr. Williamson, director of the University Testing Bureau, observed an average honor point ratio of .96. Only one fourth of the federal students received average honor point ratios less than .96 ( $Q_1 = .96$ ), and three fourths received honor point ratios above the average for Arts College freshmen. The top one fourth received average grades of approximately B or better ( $Q_3 = 1.92$ ). Likewise the median ratings on both the College Ability Test (57) and high school ranks (84) are higher for the federal aid students than for a group selected at random. Clearly then, the federal aid students are superior scholastically in comparison with a typical group of students at the University. Thus, the deduction is warranted that federal and state funds are being used to aid individuals with satisfactory scholarship records.

TABLE VI. SCHOLARSHIP AND SCHOLASTIC ABILITY OF STUDENTS RECEIVING FEDERAL AND STATE AID DURING THE FALL QUARTER, 1935

MEASURE	MEDIAN	$Q_1$	$Q_3$
College Ability Test—percentile .....	57	33	82
High school rank—percentile .....	84	70	94
Honor point ratio .....	1.43	.96	1.92

*Study of federal aid students.*—Early in the fall quarter of 1935 arrangements were made for an extensive study of applicants for federal aid at each of the thirty-one colleges in the state of Minnesota. With the co-operation of Mr. Selke, state director of the NYA, and Mr. Lund, assistant director, an inquiry schedule was given to all students receiving aid and was sent to all applicants who were not granted aid. The purpose of the inquiry was to probe further into the

needs, abilities, and interests of the applicants in the hope of providing a more adequate description of the group who apply for aid and to determine the extent to which those not granted aid find it possible to attend college. It was felt that if intelligent modifications of the program are to be made, they should be based upon all the facts it is possible to assemble.

A total of 3,061 schedules was returned by students receiving aid and 1,689 from applicants to whom aid was denied. These figures represent samples of their respective groups of approximately 100 and 68 per cent. The following summary statements are selected as the most significant of those appearing at the close of the report of the investigation.

1. The various counties of the state are represented in the group of college students receiving aid to an extent that might be expected on the basis of the population, high school enrolments, and need of each county as determined by relief expenditures and the number of relief cases.

2. Only 12 per cent of federal aid students in all colleges come from homes located outside the state.

3. In general, men have been favored more than women in the granting of federal aid.

4. Approximately one half of the federal aid students live in rooming houses while attending college and 38 per cent live at home. The proportion living at home varies from 74 at the junior colleges to 20 at the Protestant colleges. At the University about 43 per cent live at home.

5. Judged on the basis of the following facts, there can be no doubt concerning the need of students granted federal aid:

a. The median value of homes owned by families of federal aid students is \$3,205.

b. The median rent paid by families of federal aid students not owning their homes is \$24.41.

c. The proportion of families having several types of home conveniences varies from 3.4 per cent with gas or oil burners in their furnaces to 88.4 per cent owning sewing machines. For other home conveniences the proportions are as follows: electricity 82, radio 78, running water 74, washing machine, 73, house connected with sewer 64, house heated by furnace 61, telephone 58, automobile 58, vacuum cleaner 44, gas 41, and electric refrigerator 10.

d. Among the breadwinners in the families of federal aid students only one in 100 has an annual income greater than \$3,000. The median income for the entire group is \$908.

e. The occupations occurring most frequently among the family breadwinners are: laborers, 20.7 per cent; farming and the trades, 16 per cent each; and business, 11 per cent. Of the breadwinners, 11 per cent live on pensions. Only a small proportion are in the professions.

f. The average number of dependents in the family in addition to the federal aid students is 3.2.

g. The median annual expenses of federal aid students as estimated by them are \$284. For those attending the junior colleges the median is only \$118, but for those in Protestant colleges, \$436. For university students the median estimated annual expenses are \$297.

6. Judged on the basis of the average college grades, the high school rank, and the College Ability Test, federal aid students have the capacity to profit from further college training.

7. Only 6.8 per cent of the federal aid students do not intend to complete their college training; more than half of these give insufficient funds as their reason.

8. A tabulation of the occupational choices reveals that 43 per cent expect to enter teaching; 14 per cent, business or related fields; 10 per cent, engineering; and 8.6 per cent, medicine. Nine per cent are undecided. Whether the federal aid program is encouraging the preparation of too many teachers is a serious question that should receive consideration in any plans to continue the program.

9. The comparison of the students granted aid with applicants who were denied aid indicates that the only significant differences between the groups are found in college grades, and in ratings on the College Ability Test and high school scholarship. Apparently the two groups are equally needy. This means that in all probability the most important single criterion employed in the selection of federal aid students from among those who applied is scholastic ability.

10. At the University of Minnesota, 555 applicants who were refused aid registered as students. This number represents more than one fourth of all applicants to whom aid was

not granted. Altho it was not feasible to make as careful a check at other colleges of the state, there is no doubt concerning the fact that some individuals who were refused aid in the various college groups found it possible to register as students. Since all applicants signed a statement indicating that it would be impossible for them to attend college unless they received aid, one wonders how many of those actually granted aid would have found it possible to attend college even tho aid were not available.

11. The follow-up interviews gave evidence corroborating the need of federal aid students as observed from a summary of the schedules.

12. Of 265 students interviewed, only one expressed herself as being dissatisfied with the federal aid program.

13. Students granted supplementary state aid are in greater need than students receiving only federal aid.

Any adequate interpretation of these concluding statements must take into account the fact that they are based largely upon central tendencies for the group. Wide variation on practically all traits studied has been noted. The variation, however, does not negate the general tendency for the group as a whole to be wisely selected in terms of need and ability. Furthermore the students receiving aid are highly gratified over the opportunities granted to them.

While many questions might be raised concerning the policy of granting aid to college students, it cannot be denied that such aid is now making a college education possible for many able students. The enlarged contributions that these young men and women will make to society because they have been granted this opportunity for further training remain for future appraisal.

Respectfully submitted,

ALVIN C. EURICH, *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 1934-36.

During 1934-35 Mr. Cyrus P. Barnum, assisted by Miss Helen Knapp, conducted the work of the International Relations Project. With their activities the writer of this report had no connection, but Mr. Barnum's report is summarized here as a part of the biennial report for 1934-36.

Mr. Barnum states that: "as in previous years the principal activities have consisted of personnel relations, program preparation, and advisory services and co-operation with student organizations such as the Cosmopolitan Club, the International Relations Club, the Students' Forum, and with editorial writers on the *Minnesota Daily*, all in connection with international programs or news." More specifically, he enumerates such activities as assistance to foreign students in registration and housing, introduction to American homes and community agencies, and the giving of advice. He refers also to the suggestion of speakers for student and off-campus organizations, financial assistance for student teas and parties, and the provision of "suggestions and material on international topics suitable for class assignments," the latter being sought mainly by students of speech and journalism.

Other "project" accomplishments named by Mr. Barnum were the giving of interviews to reporters on the *Minnesota Daily*, the distribution of several hundred semimonthly calendars of forthcoming lectures and meetings dealing with international affairs, weekly broadcasts of international news and comment by Mr. Barnum over WLB, the maintenance of a "world map bulletin board," and the preparation, with Mr. T. E. Steward, of "a twenty-four page brochure with a four-color cover to illustrate the opportunities offered by this University to foreign students." This was sent to more than a thousand universities, educational commissioners, and others throughout the world, and the Committee on International Relations desires to attest the attractiveness of this booklet and the fine impression which has attended its distribution. It is planned to revise and reprint the bulletin in 1936-37.

With the resignation of Mr. Barnum, President Coffman asked Professor Harold S. Quigley to examine the question of the project's future and to report to him. This was done. The report was followed in 1935-36 with detailed recommendations for the establishment of undergraduate and graduate curricula in international relations. These recommendations have been approved and the curricula appeared in the current bulletins of the University. The report also recommended the appointment of a Committee on International Relations to prepare these curricula, to advise candidates for graduate degrees in the field, and to supervise the work of the International Relations Bureau. This committee, appointed by the president, is composed of Professors Alvin H. Hansen, Lawrence D. Steefel, and Harold S. Quigley, chairman.

With regard to the project the recommendation was made and accepted that an office be continued under the title: "International Relations Bureau." An excellent room in Northrop Auditorium was made available. Tentatively and experimentally, the bureau sought during its first year to confine itself to academic functions. It contemplated especially four lines of activity: (a) assistance to foreign students, (b) co-operation with student organizations, (c) assistance to off-

campus organizations, and (d) assistance to teaching and research. Social affairs and contacts were left to student organizations as being properly in their field.

In the desire to test their value, the first three of the functions were emphasized during the past year; the fourth has been largely neglected. It is now possible to suggest that the bureau be regarded hereafter as an auxiliary to teaching and research. To this end it is desirable that a room be found in the library, in which collections of treaties and diplomatic correspondence may be shelved, files of newspapers and periodicals kept, and maps and other essential laboratory material made easily accessible. The provision of such facilities would parallel, for the study of international relations, what has already been done for the field of public administration.

However, if the University of Minnesota is to increase in importance as a research center in international relations it will be necessary to establish scholarships, fellowships, and assistantships. It is a striking fact that international relations is now attracting more graduate students throughout the country than any other field of political science, with the possible exception of public administration. The distribution of candidates for the doctorate in international relations during 1935-36 was as follows:

Columbia .....	27	Minnesota .....	3
Chicago .....	14	Wisconsin .....	3
Harvard .....	12	Northwestern .....	2
Illinois .....	6	Pennsylvania .....	2
Yale .....	4	Scattered .....	12

Without disparagement of the faculties of Columbia, Chicago, and Harvard, it may be doubted whether those universities would show a total of 60 per cent of the doctoral theses under preparation in the field were it not that they are exceptionally well provided with fellowships and assistantships of special attractiveness. The Sheldon fellowships at Harvard, the Cutting and University fellowships at Columbia, and the Sterling fellowships at Yale, are worth from \$1,000 to \$1,500 each. Chicago has fewer fellowships but is considerably ahead of Minnesota.

As a beginning the Committee on International Relations makes the tentative recommendation that a fellowship in international relations, carrying a stipend of \$600 and exemption from tuition be established. Competition for this fellowship should be open to candidates for the doctorate, and the award should be made annually by the Committee on International Relations. If, as above tentatively suggested, it is found desirable and practicable to turn over certain functions now within the bureau's purview to an adviser for foreign students, and certain other functions to a student committee and clubroom, the funds hitherto provided for a project or bureau carrying on miscellaneous functions could be concentrated in assistance to teaching and research. If and when larger funds, either from local sources or from the grants of interested foundations, become available, we may hope for additional fellowships and laboratory materials.

In conclusion in June, 1936, the committee recommended that the bureau be continued on the present basis for another year, and this recommendation has been accepted. At the end of another year it should be practicable to determine whether the tentative conclusions of the Committee on International Relations should be deemed final or should be modified.

Respectfully submitted,

HAROLD S. QUIGLEY, *Chairman,*  
*Committee on International Relations*

**SPECIAL UNITS IN BEHALF OF STUDENTS**

## THE STUDENTS' HEALTH SERVICE

*To the President of the University:*

SIR: I submit a report which, while more specifically covering the activities of the Students' Health Service during the biennium 1934-36, is intended to serve also as a rather general report of the progress of this department during the fifteen years that I have served as its director. During the past year Dr. Ruth E. Boynton, as assistant director, has been directly responsible for most of the administration of the department.

*The growth of the service.*—The Students' Health Service of the University of Minnesota was organized in 1918. Three years later when its first director resigned, there was only one full-time physician on the staff, the department occupied improvised quarters in the basement of Pillsbury Hall, equipment was meager, and supplies inadequate. The activities of the department were limited almost exclusively to the provision of a certain amount of medical care to students who were ill, and 75 to 100 students' visits represented a busy day.

Today our Students' Health Service, housed in a new, well-planned, thoroly equipped building, is conducting one of the most comprehensive and, I believe, most effective college health programs to be found anywhere. Four to five hundred students per day receive health service of one kind or another. The professional staff consists of 9 full-time and 28 part-time physicians, including specialists in preventive medicine and public health, tuberculosis, mental hygiene, surgery, orthopedics, ophthalmology, otolaryngology, dermatology, neurology, and gynecology; 11 dentists on part time; and numerous nurses, technicians, clerks, and stenographers.

The objectives of our student health program are the improvement of the physical and mental health of students, the prevention of disease, the education of the student body in the essentials of healthful living, and the development by college men and women of a sound and sympathetic attitude toward modern scientific health practices.

*Health examinations.*—Complete physical examinations, with follow-up health consultations, are given as a requirement to all students when they enter the University for the first time. Recommendations concerning programs of study and physical activity are based upon the results of these examinations. Subsequent physical examinations are required of all students who wish to compete in intercollegiate athletics or other strenuous physical activities. In addition, any student may obtain a complete examination each year. In the Medical School, the School of Dentistry, and the College of Education, the faculties have ruled that these periodical examinations shall be required of all students. In the other colleges of the University they are still optional but a considerable proportion of the students, particularly from the senior class, take advantage of the opportunity thus offered to them. These periodic examinations discover some serious diseases and important physical defects, but unquestionably, their greatest value is educational, for they serve as a basis for the giving of individual instruction to students in regard to hygienic habits of living, emotional as well as physical; they acquaint students with what a thoro examination should be, and they tend to develop in students the habit of obtaining periodic examinations. In 1934-35, 6,959 and in 1935-36, 8,115 students of collegiate grade received health examinations.

*Health consultations.*—Health consultations are available to students at all times. These may be had with a general health counselor or with a specialist.

*Medical service.*—Medical care is provided for students through the Infirmary and the Out-Patient Department of the Students' Health Service. Here physicians and nurses are available to see students at any hour of the day or night. For major surgery or prolonged medical attention students are encouraged to obtain the services of private practitioners, altho the Health Service will provide for students whatever medical or surgical services are essential to their welfare. Physicians of the Health Service staff will make calls upon students in their rooms, but for continued bed care by the Health Service, students must enter the Health Service hospital.

This medical service to students is a most important part of the program of disease prevention among the student body, for when students report promptly upon the first appearance of symptoms, the possibilities of preventing the development of serious individual illnesses as well as restricting the spread of communicable diseases are greatly increased. The rendering of medical service also presents the unique opportunity for informal health education at a time that is psychologically most opportune. It is when people are ill that they become most actively interested in learning how to retain their health in case they are so fortunate as to recover it. Furthermore, one of the most effective means of combating "quackery" and of establishing sound medical practices among the public, is to develop in our younger generation the habit of seeking competent medical service when they are ill and in need of health advice.

The total amount of medical service rendered to students has increased over the years until in 1934-35 and 1935-36 the number of services exceeded one hundred thousand (Table I). The increase is not only in total services but also in proportion to total enrolment.

TABLE I. VISITS TO THE HEALTH SERVICE (MAIN CAMPUS) FOR MEDICAL ATTENTION\*

YEAR	NUMBER OF VISITS†	AVERAGE VISITS PER STUDENT OF COLLEGIATE UNIVERSITY GRADE
1926-27 .....	24,333	2.22
1927-28 .....	26,676	2.82
1928-29 .....	26,668	2.71
1929-30 .....	31,656	3.08
1930-31 .....	39,112	3.40
1931-32 .....	44,532	3.84
1932-33 .....	47,261	4.26
1933-34 .....	49,489	4.60
1934-35 .....	54,794	4.41
1935-36 .....	62,749	4.64

\* 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 inspection, eye refractions, vaccinations, immunity tests, physiotherapy, laboratory, or X-ray services.

*Hospital care for students.*—As will be seen from Table II, the number of student hospital patients in 1934-35 was the highest in the history of the Health Service. This was due largely to an extensive epidemic of German measles

throughout the entire University during the winter months, and an outbreak of scarlet fever on the Farm campus during the early spring.

TABLE II. 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 PATIENTS IN DAYS	COMMENTS
1927-28	650	68.6	2,423	3.7	Moderate epidemic of mild influenza
1928-29	750	76.3	2,634	3.5	Extensive epidemic of mild influenza
1929-30	880	85.6	4,426	5.0	No epidemic
1930-31	895	77.9	4,885	5.5	Moderate epidemic of mild influenza
1931-32	1,185	102.2	6,364	5.4	Moderate epidemic of mild influenza
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

*Immunizations.*—During the epidemic of scarlet fever on the Farm campus in the winter of 1935, scarlet fever vaccination was widely employed and the course of the epidemic strongly suggests that this was a factor in its control.

*Mental hygiene.*—Mental hygiene service is rendered by a psychiatrist who devotes his whole time to interviewing students who are more or less seriously handicapped by emotional problems. During the period of this report 441 new students have been seen, as compared to 448 students over a corresponding period (June 30, 1932 to June 30, 1934). The total number of interview hours for the past two years was 1,554 hours.

The students have been referred from the following sources: 185 from the Students' Health Service, 180 came voluntarily, 16 by the faculty, 8 from the deans' offices, 14 by other students, 4 by social agencies, 1 by private physician, 9 by parents, 19 by faculty counselors, and 5 from miscellaneous sources.

There has been little change in the types of problems encountered, the majority of them being emotional difficulties which require immediate and prompt attention, but which have not developed to the point where they could be classed as psychoses or neuroses. However, during the last two years there have been 4 cases of schizophrenia, 1 of maniac depressive psychosis, 2 of undiagnosed confusion, and 12 of the obsession and compulsion type. There have been innumerable threats of suicide, but no actual suicides. Hospitalization by this department in the Students' Health Service has increased. This, however, is not due to the severity of illness, but rather because we have found that short hospitalization has been remarkably effective in many mild cases.

*Tuberculosis control.*—Fifteen years ago, advanced tuberculous disease was distressingly frequent among the student body at the University of Minnesota. Each year approximately forty students were found to have progressive tuberculosis, of whom five to ten were sent to sanatoria for treatment, many of them seriously ill. Today, in a student body twice as large, less than half as many have active tuberculosis, and only one or two students a year are referred to sanatoria.

A considerable number of young men and women have been infected with tuberculosis before coming to college. In 1928, approximately 33 per cent of the entering students at this University reacted positively to tuberculin, thereby indicating that they had been infected with tuberculosis. In 1934 this proportion had dropped to 25 per cent. After coming to the University, students may become infected with tuberculosis from any one of several sources. One possibility is that they may be infected by other students. In years past this was an important mode of infection and if space permitted, one could cite tragic illustrations of infections from this source. With the control program now in operation, however, there is little possibility of tuberculous infection being transmitted from student to student. Members of the instructional staff or other university employees comprise another possible source of infection of students.

Medical students and nurses are exposed to additional hazards of infection from the patients with whom they come in contact. That this exposure may result in infection is evident from the much greater increase in tuberculous infection among students during their three years in the School of Nursing than among young women in the College of Education during the four-year course, as well as by numerous instances of the development of the disease within relatively short periods after exposure to patients with tuberculosis.

Our program of tuberculosis control begins when students first matriculate in the University. At this time a complete physical examination is performed, including a tuberculin test, a fluoroscopic examination of the chest, and an X-ray film of the chest of those who react positively to tuberculin. Students who react negatively to tuberculin on the initial examination are retested upon the occasion of each subsequent examination, and those who react positively have subsequent X-ray films of the chest at such intervals as are indicated by the X-ray findings, physical examination, and general health of the patient.

To prevent the spread of tuberculous infection on the campus, students, faculty members, and employees who have potentially active lesions are kept under careful supervision, and if activity is evident, either isolated or so treated that the lesion will be "closed." Special precautions are now taken for the protection of students of medicine and nursing from infection by patients and hospital employees. Tuberculosis among college students is still a major health problem but we are now able to deal with it infinitely more effectively than ever before.

*The common cold.*—The major cause of illness and loss of time among college students the country over is the common cold. For some years, this condition has been the object of special studies in our Students' Health Service. The earlier studies showed the worthlessness of certain popular forms of treatment. Subsequent investigation led to the conclusion that certain opium derivatives are of definite value in the treatment of common head colds and that most of the other medications used for this purpose are of no value whatsoever. Of the opium derivatives, a combination of codeine and papaverine seems best for general use because of the high percentage of good results obtained with it, its low toxicity, and the absence of danger of addiction to it.

At the present time, certain supplementary studies concerning the treatment of colds are in progress and a critical evaluation is being made of various preventive measures which are widely advocated and extensively used.

*Allergy.*—One of the physicians of the Health Service staff is making the subject of allergy, with its distressing symptoms of hay fever, asthma, urticaria, etc., a field of special interest and study. His careful, painstaking work has added materially to scientific knowledge concerning these important conditions and has led

to unusually favorable results from treatment. In fact, his results have been so superior that his methods and material are being used by many physicians throughout the state.

*Diabetes studies.*—Insulin, altho invaluable in the treatment of patients with diabetes, does not prevent or cure the disease. In fact, in spite of insulin, diabetes is becoming increasingly important as a cause of death. One of the more hopeful approaches to this disease is to discover it in its incipiency, before any symptoms occur or, better still, to identify the individuals who are "potential diabetics." For several years the Health Service has been devoting special attention to this approach. Every student whose urine shows even a trace of sugar is studied exhaustively with special investigation of the body's ability to utilize sugar. Some have been discovered to have a diminished ability to burn sugar, a condition which may prove to be potential diabetes. The dietary management of such patients is being carefully studied and is giving encouraging results.

*Treatment of dysmenorrhea.*—The gynecological department of the Health Service is continuing the study of the cause and treatment of dysmenorrhea. When this study is completed and conclusions drawn it should be of widespread interest and value.

*Dental service.*—The dental department of the Health Service was established some years ago because it was observed that many students, in spite of advice concerning the necessity of dental work, were completely neglecting their teeth. The policy of the department has been to make dental service available to students who were not securing it, rather than to build up a large department doing as much work as possible. For this reason, the number of students served by this department and the amount of work done have remained practically constant for some years.

*Financial status.*—The Health Service, ever since its establishment, has been a self-supporting department, its budget being derived entirely from fees and special charges paid by students. In 1921-22 the Health Service budget was approximately \$30,000 and there was an existing deficit of \$19,000; the health fee was \$2 per quarter and there were no special charges. Shortly thereafter in order to increase the scope of the service the health fee was increased to \$3 per quarter and special charges were made for certain services, such as drugs, X rays, use of the operating room, board and laundry in the hospital after two days, and certain laboratory procedures. Over the intervening years the Health Service income has been adequate not only to meet the operating expenses but also at times to make substantial improvements in the building and equipment. During the past year the Health Service income amounted to approximately \$147,170 for the medical department and approximately \$26,606 for the dental department.

Altho university enrolment increased, during the period no serious epidemics occurred; consequently, the Health Service will finish the year with a reasonable balance in its budget. It is my recommendation that this be used to establish an emergency reserve fund which can be drawn upon in case of unusual epidemics. Current income can then be utilized more freely for still better service for students.

*Summary.*—The Health Service program for students at the University of Minnesota is becoming increasingly more effective and comprehensive. Physical defects are discovered and corrected; communicable diseases are controlled so far as is scientifically possible; the campus is a healthful and a safe place in which to spend several years of one's life; illnesses are cared for during their early stages when treatment is most likely to be effective; and scientific studies of various health problems are conducted.

*THE PRESIDENT'S REPORT*

Each year the service is reaching an increasing number of young men and women who soon will be taking their places among the more intelligent citizens of our communities. Through their contacts with the Health Service, these recent graduates are becoming familiar with scientific medicine and modern health practices and are learning to do their part in community health work. With their number increasing from year to year, we believe that soon these young men and women will become a potent force in directing public opinion on health matters, serving as valuable co-workers of the medical profession and community health departments.

Respectfully submitted,

HAROLD S. DIEHL, *Director*

## THE DEAN OF STUDENT AFFAIRS

*To the President of the University:*

SIR: I submit my report for the two years 1934-35 and 1935-36 covering the interests and activities of the office of the dean of student affairs.

The general morale of the student body has been excellent, each year showing an improvement over the previous year.

*Significant trends.*—To me, significant trends are:

1. An increasing number of students are showing an intelligent and thinking interest in the problems of today—political, social, and economic. This group is using the informational matter provided them in their classrooms and trying to relate it to national and local problems so much discussed and published. In recognition of this growing interest in general problems and to encourage discussion, the Senate Committee on Student Affairs recommended that a room be set aside in the Minnesota Union where students might hold meetings for the discussion of any and all questions in which they may be interested. This recommendation was approved. The room was open for student discussion but not for the use of outside speakers.

The student body may be roughly divided into two main divisions, the liberal group and the conservative group. No clear line can be drawn between them as they shade gradually from conservative to liberal-conservative—liberal-ultra-liberal, and a small group of radicals. (The term radical as used here means one who believes in accomplishing desired changes in the form of government by revolution.)

2. A decided change is certainly developing in connection with the drinking problem. An increasing number of students are refusing to drink, some because they do not like it, some because they have scruples against it. In this connection, a few years ago these same students would have felt they had to drink to maintain standing with their fellows. They would have feared being left aside and not having an equal chance to take part in the general social life. The attitude of the individual today is that of independence of thought and action. He must decide as to whether he does or does not drink, without fear as to the effect on his personal relations. As a result I am certain that there is not nearly as much drinking at the large parties. This office has direct contact with such parties and of our own knowledge there has been no difficult problem this past year. The improvement has, of course, been gradual—no sharp and sudden change. Students state that such improvement has also been shown at smaller fraternity and sorority parties.

*The spirit of social service.*—The growth of this spirit is clearly represented in the student body and is exemplified in the students' work during Freshman Week; the work of the Campus Sisters in their quite successful efforts to establish contact with every entering woman student; the formation of the Co-ordinating Social Committee; the organization of the University Lodgers' League; and the effort (participated in by students) to develop noncurricular, noncredit guidance and help in leadership training. There have been for years numerous small groups, whose basic purpose has been to build friendship and helpfulness. The development of the above mentioned groups shows clear recognition on the part of the individuals and groups of the need for broadening the application of the social service idea as it has existed previously in small individual units.

## THE PRESIDENT'S REPORT

*Interests and activities of the office.*—At present there are 338 student organizations on the campus of the University which have been given official recognition by the Senate Committee on Student Affairs. These may be roughly classed as follows:

Governmental in character .....	9
Religious in character .....	10
Fraternities and sororities: social, professional, and honorary .....	172
Miscellaneous .....	166

A number in the last class are ephemeral in character. The purpose of all of them is excellent.

From February 1 to June 30, 1936, each member of this office having official responsibility in meeting students kept a record of all interviews and conferences. Three thousand thirty conferences and interviews were held, grouped approximately as follows:

Personal .....	751
Loans .....	1,078
Organizations .....	671
Fraternities—sororities .....	310
Official—students .....	60
Eligibility .....	45
Posters .....	75
Discipline .....	40

The discipline figure sounds more serious than it is. Under this head come all cases, from mild reprimand or caution to maximum penalties. Also, in the consideration of one case, if at all serious, there may be more than one conference with those concerned.

*Student organization finances.*—Student organizations are, as a group, in a healthier financial condition than for years. Many old outstanding accounts have been settled, others are in process of settlement. Student groups are recognizing that the services of Mr. Carroll S. Geddes of this office are offered by the University in a spirit of helpfulness and co-operation. The credit standing of our student organizations has been very greatly improved by this work. The growing interest of the student group in this guidance and help is best shown by the following statement:

	1933-34	1934-35	1935-36
Deposited receipts .....	\$116,260.97	\$130,778.82	\$136,854.22
Disbursements .....	111,276.74	127,978.94	130,990.95
Current yearly balance .....	\$ 4,984.23	\$ 2,799.88	\$ 5,863.27
Balance at close of previous year .....	13,697.66	18,681.89	21,481.77
Balance June 30, 1936 .....	\$ 18,681.89	\$ 21,481.77	\$ 27,345.04

These figures relate to those organizations having their entire life on the campus, not to fraternities and sororities.

*Student loans.*—During the years of depression loans to students assumed an important part in student-university relations. During the past two years there has been an appreciable shrinkage in the totals of loans. This I explain as follows: During these two years we have had the National Youth Administration assistance. Through this a number of students normally on our loan list have been cared for. It has been the practice to grant no loans to students receiving federal aid, with the exception that loans have been made for medical emergencies and for deferred tuition.

Following is a comparison of loans for 1934-35 and 1935-36:

	No. of Students Granted Loans		Total Loaned	
	1934-35	1935-36	1934-35	1935-36
University trust funds .....	239	302	\$22,548.92	\$27,633.98
Special funds .....	115	106	3,831.80	4,100.80
Total .....	354	408	\$26,380.72	\$31,734.78

*Fraternities.*—The past two or three years have been exceedingly trying ones for fraternities and sororities. Basically, I believe, this is due more to haphazard handling of finances than to any other one factor. There has been an increased tendency to let house accounts of individuals accumulate. Possibly part of the trouble has arisen from difficulty in getting enough new members to insure financial safety; this in many cases accounts for the financial condition of the groups. In a few cases the failure to get new members has necessitated closing houses and a complete reorganization of the groups.

This office has co-operated closely through "the Minnesota Plan," under which we place financial advice and guidance at the disposal of the groups. In severe cases this has amounted to almost complete control. We also assist in obtaining house counselors (usually graduate students from other institutions), who receive their board and room as compensation. Counselors assist the chapters in building a morale and enable them actually to give their members some of the training and guidance they hold out as values of membership to those they seek. This plan is wholly voluntary. The counseling has in most cases proved helpful and the financial assistance has meant the salvation of some of the chapters. In one or two cases the financial guidance has shown to a chapter that its situation was hopeless. Members have accepted advice to discontinue with the possibility of re-entering the University at some later date and under more favorable conditions. At present we are not in a position to take on all groups seeking this financial help, but we do so as fast as the office can absorb and care for the additional work.

Recalling the agitation and worry concerning lack of men, and the part the men's dormitories might play in creating it, the following figures offer opportunity for thought. They show the average number of activities and pledges per chapter covering a nine-year period.

1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	Average
41.34	47.9	47.27	49.65	46.82	42.27	41.51	40.69	41.17	44.28

The depression, and the necessity of reducing expenses, played an important part in the small decline in membership. In numerous talks with parents, and some with sons or daughters, it was stated both by parents and students that the financial situation was such that membership in a fraternity or sorority was out of the question at that time but that when conditions improved it was hoped the opportunity might be open.

As evidence of appreciation of the financial help, an expression from a national officer of one of the fraternities is encouraging. In a letter he stated, "If the result obtained in our local chapter is a result of institutional paternalism, I hope every college administration soon follows the lead of Minnesota."

There has been a general improvement in house conditions. What the improvement in scholastic standing is for this past year, if any, will not be known until the beginning of the school year 1936-37.

Two other noticeable and encouraging instances of progressive thought may be mentioned. First, a return to the practice of pledging only after the completion of a quarter's work (this after a trial of pledging during the first quarter of attendance). Second, each one of the groups this year entertained at a Christmas dinner, in their house, a group of ten underprivileged boys. Following the dinner all the groups with their guests moved to the Minnesota Union where an interesting and pleasing program of entertainment was provided for the youngsters. This I consider a fine evidence of recognition of service to others by the fraternities.

*Student publications.*—All publications are in sound financial condition. In the matter of their relations and responsibilities to the University there is room for considerable improvement. This statement applies more to *Ski-U-Mah* and the *Daily* than to the other publications. In the case of the *Daily*, there is a failure properly to interpret the expression "freedom of the press" as it applies here; a failure to recognize that this paper is not a metropolitan newspaper with a list of patrons at liberty to leave it at any time, but in reality, a house organ where the supporting subscribers are, in a sense, a forced group. In the case of *Ski-U-Mah*, the problem is: first, a failure of those in charge to realize their responsibility to the University; second, a failure to get editors who have a discriminating sense of humor; third, a tendency to place too much dependence on clippings, and an appeal to the vulgar. In my opinion the editor of the humorous type of publication has the most difficult job in the student publications field.

*University Lodgers' League.*—There are 215 men's lodging houses located around the campus, housing at least two thousand men students. As a result of this wide scattering, many members of this group have been outside of the university community life—social, athletic, political, etc. It is hoped that by organization they may develop a group consciousness and create for themselves a definite place in the general student life. With the guidance and assistance of Dean McCreery this group has, as a result of a year's work, perfected an organization known as the "University Lodgers' League." The entire group of lodging houses has been divided into five districts. Each district elects its own president. The five presidents compose the council which meets weekly. Plans are under way for organized intramural sports looking forward to the participation of this group in the university intramural sports program. The league has made an excellent start and gives promise of bringing a large body of men students into active participation in the community life of the University.

*The Social Co-ordinating Committee.*—This committee was formed as a result of a two-year discussion of the social-life problem of the University. The discussions indicated that the problem was not one calling for new forms of social life or new agencies. The need was for a better understanding by each of the present agencies of what the others were doing or trying to do. It was believed this could best be accomplished through a general committee consisting of representatives of all existing agencies, and further, that through the co-operative work of such a committee less duplication and a wider knowledge of the various opportunities open to students would be achieved. That these possibilities may readily be made into facts was clearly proven this last year in the few definite enterprises carried out. It is the opinion of the student leaders closely connected with social progress on the campus that this committee, through co-operation, has developed this year the best balanced social program of years. Twenty-five campus organizations are at present represented on the committee, together with those officials who are directly interested.

*Leadership training.*—During the last years efforts have been made to train sophomores and juniors as individuals for leadership in the senior year. This has been individual work entirely; in some years it has been reasonably successful, in others not. A few years ago an attempt was made to give group training to students holding offices involving finances. This consisted in an invitation to meet with the financial adviser located in this office. These meetings were to instruct the students in the basic values of budgeting, accounting and bookkeeping. It was and has been impossible to draw students to group meetings, but as individuals seeking help and instruction they have gladly availed themselves of this assistance.

It is planned to approach the problem this fall on a much broader basis, through group training instead of individual training. Plans as outlined for this work are now in the course of preparation. They are being developed in co-operation with students and faculty. I have used the heading leadership training, tho whether this is the name actually to be used remains to be settled. A title may play an important part in the success or failure of this attempt. The work will offer no credit toward graduation.

Respectfully submitted,

EDWARD E. NICHOLSON,  
*Dean of Student Affairs*

## THE INTERFRATERNITY COUNCIL

*To the President of the University:*

SIR: I submit my report for the two years 1934-35 and 1935-36 covering the interests and activities of the Interfraternity Council.

During the period 1934-36, the Interfraternity Council strengthened its organization, developed certain projects that had been started in previous years, and inaugurated a social service project which is intended to be the forerunner of other similar activities. Fraternities have come to realize that matters affecting an individual group affect them all as a social institution and that matters affecting the fraternity system ultimately affect individual chapters. Along with this change in conception of function of the Interfraternity Council and its relation to individual groups, there have been developed certain interfraternity projects which are continued from year to year. Some of these are administered by representatives on the council and others by special more or less permanent organizations which have been set up.

The outstanding feature of this period has been the advancement that has been made in the organization of the council.

It is interesting to note that the council progressed during the year despite the fact that a greater amount of time than should have been was taken up with a discussion of the rushing program for 1936-37. The advancement came about because of the administrative activities that gradually have been developed.

*Rushing regulations.*—For about ten years fraternities held a formal rushing period during the first week of the second quarter. Until the fall of 1933 all students entering the University—freshmen and those transferring from other higher institutions—were rushed at the beginning of their second quarter in residence.

One of the purposes of such deferred rushing is to give the new student an opportunity to adjust himself to university life. Because a transfer student already has had that opportunity, even if in another school, rushing of transfer students during their first quarter of residence was inaugurated the first week of the fall quarter in 1933.

Freshmen continued to be rushed in the first week of the second quarter of their residence until the past year when a compromise system was tried as a result of the "rushing" discussion in the council during the year 1934-35. The council had been divided almost equally on the question of rushing freshmen during the first week of the fall as against the first week of the winter quarter.

As a compromise, fraternities entertained freshmen on seven dates (Mondays and Thursdays) during the first four weeks of the quarter in the fall, 1935. An intensive three-day rushing period culminated in pledging on November 7. This compromise system proved unsatisfactory and further discussion resulted in a seemingly peaceful settlement which returns the fraternities to the previously established rushing of freshmen, continues the first quarter of transfer students, and makes provision for special assistance to groups which are in very great financial need.

In this way, fraternities, which have permission from an impartial committee of the Interfraternity Council, may provide for summer rushing of out-of-town freshmen who will become house residents. This committee was composed of the president of the council (the assistant dean of student affairs), the financial adviser

of student organizations, and an alumnus of one of the fraternities not applying for permission. The number of men which the fraternity would be permitted to pledge is set by the committee according to the organization's financial needs as determined by a thoro study of its financial position. Five fraternities made application for this special rushing privilege. Of this number two later withdrew their applications, leaving three groups operating under the plan.

During the past two years a great deal of effort has been expended in study, discussion, trial of the compromise, and further study. Discussion of rushing regulations is always a disintegrating factor in council organization for no system can be perfect or satisfy everyone.

It is hoped that the agreement by a substantial majority of the council's members has settled the main features of the rushing system for the next few years. Council meeting time can be devoted more profitably to consideration of other matters, and the spirit of co-operation and organization can be strengthened further.

There are maintained in the office of the dean of student affairs current figures on the costs of fraternity membership and residence. With figures on all of the academic fraternities as a guide, the office is able to give inquiring students authentic information. Stories of extremely high and extremely low costs can be verified by rushees.

*Projects.*—The most notable single project of the Interfraternity Council during the year was the Christmas party sponsored for 300 boys from needy families in Southeast and Northeast Minneapolis. (See report of the dean of student affairs.) Its success suggests what might be accomplished in other endeavors in which the Interfraternity Council may wish to take the leadership.

There were nine fraternities receiving a monthly audit of their financial records by the University's financial adviser for student organizations, and one receiving a quarterly audit. Three more are planning to avail themselves of the monthly service during 1936-37.

Twelve fraternities had graduate counselors living in their chapter houses. During the year the counselors met regularly to discuss their many common problems. They are beginning the collection of material on information and methods to pass on to successive counselors. Fraternity interest in the counseling system has increased. The greatest difficulty encountered up to the present time has been in securing men to fill these positions. More fraternities probably would install counselors if they could be secured.

The Interfraternity Council established a Public Relations Bureau in the spring of 1935. Operated by a director with journalistic experience, this agency aims to combat sensational publicity about fraternities, which has in the past usually magnified small incidents and falsified a great many, by offering publications authentic information about the organizations. Sensational publicity injures not only fraternities but also the institutions with which they are connected. The bureau was continued during the past year and expanded its work. The most important single task it performed was the preparation and publication of the Interfraternity Council's booklet, *Fraternity Men at the University of Minnesota*, which is sent to prospective new students.

In November the Interfraternity Council again held its annual interfraternity ball. Its significance over a period of years rests in its unifying influence.

Fraternities have co-operated individually in the abolition of the annual pajama parade. There was no fraternity representation in the 1935 affair, and there was no parade this year.

For several years the council has held an annual spring banquet attended by the retiring representatives and also those who, it is expected, will serve during the following year. Each year a guest speaker has discussed various aspects of fraternity problems, and keys have been presented to those who have attended at least seven of nine meetings during the year. President Coffman's attendance and message which featured the 1936 banquet should be made a tradition.

At the last regular meeting the council authorized the publication of a manual on the University, for pledges and other students, similar in purpose to the pledge manuals published by the national organizations of several fraternities.

*Membership figures.*—Following is a comparison of membership (actives and pledges) of the twenty-nine academic fraternities constituting the Interfraternity Council for the years 1927-28 to 1935-36, inclusive:

1927-28	1928-29	1929-30	1930-31	1931-32	1932-33	1933-34	1934-35	1935-36	Nine-Year Aver.
<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*	1,284
<i>Average Number of Actives and Pledges in Each Fraternity</i>									
41.34	47.9	47.27	49.65	46.82	42.27	41.51	40.69	41.17	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	8,446
<i>Percentage of Total University Enrolment of Men in These Fraternities</i>									
15.35	16.95	16.47	16.64	15.48	15.13	15.29	13.50	12.06	15.20‡

\* One fraternity made no reports during 1935-36. Total and averages for 1935-36 are of twenty-eight fraternities.

† Taken from Table I in registrar's reports.

‡ The seven-year average of 1927-28 to 1935-36, inclusive, is 15.90 per cent of men students. A substantial portion of the increase in the number of men in school is due to federal aid and university aid.

In collecting the figures for each fraternity, active members and pledges are combined. Men who dropped prior to the first mid-quarter of their year in school are omitted. Graduate students are included. Transfers from chapters in other schools when indicated as unaffiliated are omitted.

The following factors should be considered:

1. The figures do not show the extent of dispersion around the mean. The averages of the individual fraternities range from the eight-year average of 26.55 men and the low nine-year average of 32.1 men to the high nine-year average of 63.33 actives and pledges. The eight-year average is of the fraternity which made no reports for 1935-36.

2. If men are in school only one quarter, they are included in the scholarship comparison. A stability of membership is necessary to continuity and efficiency of organization.

3. Therefore, inefficient management and unstable organization appear to be more directly significant factors in the difficulties some fraternities have had than the securing of members. Proper selection and efficient management continue to be necessary elements of satisfactory operation.

Respectfully submitted,

OTIS C. MCCREERY,

President, Interfraternity Council

## THE DEAN OF WOMEN

*To the President of the University:*

SIR: The dean of women submits the following report for the biennium 1934-36.

Perhaps the greatest change that this biennium shows over the previous one is that the student body has come to accept the depression with its limitation of resources and opportunities as the expected course of life, rather than as some temporary emergency. Students have become more accustomed to doing without things, and have assumed, moreover, that society should do more for them. The leaders among the women students are constantly accepting greater responsibilities for creating improved conditions for their fellow students. They are awakening to the opportunities for group life that will include a larger proportion of the student body.

*Students' union building.*—Minnesota women are looking forward most eagerly to a new students union building. Indeed, they regard this and a new dormitory for women as the two outstanding needs on this campus.

### HOUSING

*Sanford Hall.*—Sanford Hall has had more students than we could care for. Some of the rooms that should be used only as singles have had to be used as double rooms. We still use student help, even tho it is expensive and difficult. The women find it hard to understand why the men need two such splendid units as Pioneer Hall when no provision is made for a new women's dormitory, even tho the Sanford Hall is both disadvantageously located, and very old-fashioned in its appointments.

*Nurses' Hall.*—The Nurses' Hall is increasing its usefulness. More and more we are using student government in the hall, and the students are taking their responsibilities splendidly. This system is gradually bringing the students more into the general life of the University, and is making their home a place of personal development and social poise by its many opportunities for social participation.

*Co-operative cottages.*—The last two years we have housed ninety-one girls in the seven co-operative buildings, and we carried a long waiting list. For two years we tried the experiment of a self-help cottage, using one of our largest buildings, and permitting the residents there to bring their own food, and to prepare their own meals, either singly or in groups of two or three. The results have not been satisfactory to the girls themselves, and many of them have taken their meals in the regular co-operative houses because they found they could do it as cheaply and far more pleasantly. For the coming year, therefore, we are discontinuing this self-help arrangement, and are putting all of the cottages on the co-operative basis with the students living in small group houses, but eating in a common dining room. The social life has proved satisfying, the food and living conditions are good, and we have had excellent chaperons. It has cost less than \$62 a quarter for each girl living in the cottages for both room and board. While we are opening one small additional cottage this fall, it will not be enough to take care of the demand. We could use many more of these cottages if only we had them.

*Home Economics Dormitory.*—We have continued to use the Home Economics Dormitory on the Farm campus for university students taking work there.

*Rooming houses.*—All houses where students live are inspected and graded by the director of the Housing Bureau. We continue to hold monthly meetings of our householders' organization. The organization of householders for men is growing much more efficient in its work, and the women who run the men's houses are coming to feel their common problem, and their need of a greater service to the students.

### STUDENT ORGANIZATIONS

*Women's Self-Government Association.*—This is perhaps the strongest single organization for women on the campus. In 1934-35, under Miss Constance Crysler, and in 1935-36 under Miss Catherine Burnap, it has had two distinctly successful years. Each year sees some change in emphasis as a result of studying and analyzing its own problems. For the past two years, this has been one affording a wider social acquaintance among the women students. The board has also co-operated heartily in the Co-ordinating Committee work. Each year of this biennium, they have given fifteen scholarships of \$100 each to women students whose scholastic work is outstanding and whose need is great. This is financed through the profits of the bookstore. For the coming year, they are realigning their work in vocational advising, and attempting to combine it with their freshman advising. They hope to begin this work Freshman Week, and both the senior advisory chairman, Miss Jane Speakes, and the vocational chairman, Miss Peggy Wolfe, are working intensively to make it of real value to entering students. They are also revising the work of the senior advisory group, and hope to have the upper-class women who serve as Campus Sisters, maintain throughout the year the friendly counseling begun in Freshman Week.

*Young Women's Christian Association.*—Miss Margaret Bushnell was president in 1934-35, and Miss Geraldine Anderson in 1935-36; Miss Jane Bradley is secretary. The Young Women's Christian Association studies its own problems each year, and in the light of its record revises its program. The Freshman Friendship groups were reorganized in such a way as to include sophomores in apprentice positions.

The Religion Committee planned and carried through a series of discussions followed by visits to churches of different denominations and creeds in the Twin Cities. This provided an opportunity for students to discuss religious questions with the ministers, rabbis, and priests of these various churches.

The Social Service Committee has continued to work with various social agencies in the community and to supply volunteer leadership to these agencies. The chairman has been a member of the Holiday Bureau and has been responsible for collecting gifts for children at Christmas from various campus groups.

The cabinet has been aware of the needs on the campus in the field of student social life and has worked on the recommendations made by the Committee on Student Adjustments.

The Fortnightly Cabinet, in co-operation with the Young Men's Christian Association, has carried on a program of inexpensive dances, and has sponsored dancing classes for men and women.

The Public Affairs Committee has co-operated with the Young Men's Christian Association in the formation of peace caravans.

*Mortarboard.*—Mortarboard, a senior honorary society for women, has taken an important part in the work of the women students. It does not sponsor individual projects, but tries to make its influence felt through the natural contacts which its members have in student organizations.

*Sororities.*—The depression has had a serious effect on many of the sororities,

but those that have survived seem to be stronger and more united because of their difficulties. Delta Phi Epsilon, Alpha Delta Theta, and Phi Mu were forced to give up their charters because of inability to attract members. One other is on probation at the present time for the same reason. National Panhellenic Congress passed a ruling limiting chapter size on all campuses, in the hope of equalizing opportunity among the sororities. This goes into effect next fall, and should have a salutary effect on our own campus, where we have had the curious spectacle of sororities in which the new members so far outnumbered the old ones that they could take control into their own hands and disregard the upper-classmen at will.

For six years Panhellenic has maintained a loan fund for its members. This year it is instituting a system of scholarships open to its own members, since they are not eligible to apply on the basis of need, for the other scholarships offered to university women. Each quarter it intends to give two scholarships of \$50 to upper-class sorority women who have shown strong scholarship and leadership. The same student may hold the scholarship for three successive quarters. The money for this enterprise is raised each year by the Panhellenic Ball, perhaps the best attended single function on the campus.

The year 1934-35 shows the lowest scholarship average for sororities in fourteen years. When Panhellenic realized that eleven of its groups had scholarship averages lower than that of the entire student body, the organization felt it must take drastic steps. Only a study of this year's averages can tell how effective their measures have been. They tried to limit the social program of all groups with low scholastic ratings, and also of all individuals in all the groups. They are also studying methods of selecting members.

*Shevlin Hall.*—Shevlin Hall's facilities have been under careful study and check by students and administration. Beginning next fall, we hope to change its atmosphere somewhat by eliminating the study hall and by stressing the recreational features afforded by the space thus vacated. Any such change of course is only a makeshift until such time as we shall have a really adequate student union building.

*Chaperonage.*—Checking on parties held by student groups has, over a long period of time, shown definite results. The comments of the chaperons are far more favorable than they were when the system was first inaugurated. The student groups are much more co-operative, and we hear fewer unfavorable comments.

*Co-ordinating Committee.*—This year for the first time a well-organized committee of students and administrative officers has met regularly every two weeks to discuss the social program on the campus, to acquaint all groups with the programs that each is sponsoring, and to show ways in which many groups can co-operate. For several years past, the Women's Self-Government Association, the Young Women's Christian Association, the Women's Athletic Association, and the Panhellenic Council, have invited the presidents of each of the other groups to sit as liaison members at all board meetings. This has kept each of the organizations informed of the programs of all of the others. As the women's groups have come to work more and more with the men's groups the need for an informative committee has become more imperative. Dean Otis McCreery has been chairman of this committee, and has in general outlined its work and conducted its meetings. The students, however, have made the most valuable contribution through their increased understanding of the problems of other organizations. I feel that the work of this committee is forward looking and hopeful and I point with pleasure to the fact that the women had so large a part in making it a success.

Respectfully submitted,

ANNE DUDLEY BLITZ, *Dean*

## THE UNIVERSITY TESTING BUREAU

*To the President of the University:*

SIR: I submit the report of the University Testing Bureau for the period July 1, 1934 to June 30, 1936.

*Basic policies.*—It is the function of the University Testing Bureau to make available to students and to faculty counselors of students, the technical resources necessary to effective personnel work. A total of 4,325 student cases was given vocational and educational guidance during this period, an increase of 95.7 per cent over the preceding biennium (Table I). This growth has caused an undesirable delay of from one to three weeks in interviewing students and interpreting their tests and case data. Of the total, 2,925 were new cases not seen during the previous biennium, and 1,400 were cases with whom the original contact was made in the preceding biennium. This large increase in the student case load is due, in large part, to a 33.8 per cent increase in the number of freshmen handled and to an 84.2 per cent increase in the number of students handled previous to registration in college—designated as precollege cases. These increases are in line with the policy of the bureau to provide guidance services early in the career of each college student so as to prevent, if possible, educational and vocational maladjustment. The bureau in its work is, therefore, shifting from an emphasis on adjustment and rehabilitation of failing students to an emphasis upon anticipating and preventing student maladjustment by early diagnoses of educational and vocational aptitudes and by recommending curricula and vocations consistent with these diagnoses.

TABLE I. THE CASE LOAD OF THE TESTING BUREAU

	BIENNIUM	BIENNIUM
	1932-34	1934-36
Total student cases .....	2,209	4,325
New cases .....	2,057	2,925
Continuing cases* .....	152	1,400
Referred cases .....	1,200	2,262
Volunteer cases .....	1,009	2,063
Men .....	1,284	2,648
Women .....	925	1,677
Total freshman and precollege cases .....	1,367	2,095

\* Cases returning to the bureau after an initial contact in the preceding biennium.

A second policy is that of continued counseling of students during their residence in the University. In pursuance of this, 63.3 per cent of the student cases seen during the preceding biennium were given additional testing and counseling during the biennium 1934-36. It is anticipated that this continuous counseling will characterize the future program of the bureau, since students' original problems are rarely completely and permanently solved and new problems are constantly arising.

The bureau's clinical facilities have been utilized to an increased extent by the following: by the College of Science, Literature, and the Arts, for supplementary testing of those applicants for admission with border-line aptitude for college scholarship; by the General College, for testing of students applying for transfer to or from that college; by Arts College counselors, for students needing aid with

problems of adjustment to college; by the University Speech Clinic, for vocational advising of students with speech disorders; by the State Division of Re-education, for vocational advising of precollege cases with physical disabilities; by the School of Business Administration, the Law School, the School of Nursing, the School of Chemistry, and the Division of Home Economics, for educational and vocational counseling of students on scholastic probation to the end that plans consistent with aptitude may be suggested. In addition, an increasing number of high school teachers, advisers, and superintendents has sought the assistance of the bureau in giving vocational and educational counsel to high school juniors and seniors who plan to enroll in the University. This latter service provides opportunity to prevent maladjustment of college freshmen, to disseminate information about improved methods of guidance, and to assist in the development of more adequate guidance programs in the schools.

*The increase in case data.*—Since effective guidance depends upon the completeness and quality of case data available for educational and vocational diagnosis, it is gratifying to see the large increase in such data as is presented in Table II. The method of collecting these data reveals a weakness in procedure that continues to hamper the work of the bureau. Most, if not all, case data are collected from students themselves or from agencies on the campus and none are collected from outside sources; nor are any of the data verified by the social worker's techniques. Pressure of the heavy case load makes impossible the correction of this serious defect. The number of interviews given to students during this biennium and the reports sent to other counselors have increased markedly, the latter indicating that the bureau is co-ordinating its clinical facilities with the work of other personnel workers on the campus. The total number of tests given to students has increased 98.95 per cent over the number given during the preceding biennium.

TABLE II. CASE SERVICE STATISTICS

	BIENNIUM	
	1932-34	1934-36
Data collected from other agencies		
Entrance test ratings .....	1,423	2,544
Grades .....	653	1,451
Health Service reports .....	828	1,623
Clearance slips via contact desk .....	2,747	4,351
Reports from college counselors .....	478	95
Total data collected from other agencies .....	6,129	10,064
Number of interviews with cases .....	4,529	6,075
Reports to college counselors and administrators .....	1,531	2,395
Data collected from students		
Vocational interest tests .....	1,390	2,677
Scholastic aptitude tests .....	2,121	3,041
Special aptitude tests .....	1,759	3,099
Achievement tests .....	2,585	4,935
Reading tests .....	106	287
Personality inventories .....	1,392	5,531
Case history forms .....	1,512	2,046
Total data collected from students .....	10,865	21,616

The number of psychological and other types of tests administered and scored by the bureau for other departments of the University doing research or guidance work, has increased markedly from 31,268 to 69,706. The number of tests scored,

which includes tests administered in the state-wide testing of high school seniors, increased from 81,791 to 116,300.

During the biennium much time and effort were devoted to the development and standardization of clinical, diagnostic, and staff procedures and to methods of record keeping. At no other university or college were there available the results of experiences which proved useful to this task. At most other institutions personnel work was found to be performed in too desultory a manner to be of value in the professionalization of this work. The bureau's *Manual of Staff Procedure* outlines the techniques employed at Minnesota.

*Training clinical workers.*—A new feature of the bureau's program, in line with its policy of disseminating information about methods of guidance, is the training of guidance workers. Twenty individuals were given a short apprentice type of training in clinical guidance work during the last year. These individuals include graduate students, faculty members, and personnel workers from other institutions who spent from one day to twelve weeks in the bureau. In this connection also the director served as a consultant to three Minnesota colleges in the development of personnel programs and assisted in the development of guidance programs in the Jewish Welfare Association and the Woman's Occupational Bureau of Minneapolis. Guidance information useful to students has been disseminated through the vocations class in the General College taught by the director of the bureau. The syllabus for this course is now being prepared in textbook form and will soon be published.

*The research program.*—Emphasis has been placed on personnel research and a number of projects have been published, or completed for publication. The latter include the development of two social attitude tests; an evaluation of the vocations class by a comparison of the amount of information gained by students in that class with that gained in two control groups; a study of the gain in spelling, usage, and vocabulary of the College of Science, Literature, and the Arts freshmen; a five-year study of the occupational choices of high school students in relationship to their aptitude for college work; a comparison of high school seniors and college freshmen in aptitude for college work to determine the amount of selection between the two adjacent levels of the educational system; changes in college aptitude of university freshmen over the past six years to determine the effect of increased college enrolment on the quality of student aptitude; and an investigation with Dean J. B. Johnston of a ten-year follow-up of early prediction in the College of Science, Literature, and the Arts.

Additional projects partially completed include an analysis of 2,300 guidance cases as to types of problems, techniques, and methods of diagnosis and counseling, and the relationships of problems to interviews, grades, scholastic ability, and other variables; and a follow-up investigation of 1,100 cases given advice by the bureau to determine the effectiveness of the bureau as measured by the criteria of educational and vocational adjustment and college scholarship. In this last project, 500 students in residence were interviewed, and an additional 600 students not now in residence were interviewed or reached by means of questionnaires. This investigation will be completed during the coming year and will be published. The results of a preliminary study of 200 cases indicate that the bureau's diagnoses and counseling have aided in bringing about a better attitudinal, scholastic, and vocational adjustment in a large percentage of the cases. The larger investigation will undertake to differentiate those techniques of diagnosis and counseling which produce results of a satisfactory character.

Other continuing projects include the standardization and analysis of a test measuring students' attitudes toward the choosing of a vocation; a comparison of students' attitudes and those of adult guidance workers; the relationship between students' vocational choices and college scholarship; the prediction of college scholarship by means of an interest test; a study of college freshmen in respect to their preparation for the study of English, covering the years from 1929 to 1936; an investigation of the reasons given by students for making certain vocational choices, and the permanency of those choices; and an investigation of the per capita cost and time of the bureau's guidance work with students.

These investigations of basic problems in the field of student personnel work are integrated with the bureau's clinical practice, adding to the store of diagnostic resources available to counselors of students to the end that educational and vocational plans may be made in harmony with possibilities for success.

Respectfully submitted,

E. G. WILLIAMSON, *Director*

## THE BOARD OF ADMISSIONS

*To the President of the University:*

SIR: The Board of Admissions was established in April, 1932, as an all-university organization. Members are appointed annually by the university president and for 1935-36 include the following: Harl R. Douglass, Clyde H. Bailey, 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 entrance requirements, and (b) to investigate problems relating to the admission of university students. While matters of general policy are determined by the Board of Admissions, the routine administration of the rules has been delegated to the university registrar, who is ex-officio a member and the secretary of the board. The statistics concerning admission to the various colleges of the University will be presented as usual in the separate report of the registrar.

The University Testing Bureau was established as an all-university organization upon recommendation of the Board of Admissions. A separate report of this bureau is made by the director.

The preceding biennial report described the organization of a comprehensive study of the requirements for admission in the various colleges of the University. During the past biennium these researches have made it possible to predict more accurately the probable success of applicants for entrance to the various divisions. In those schools or colleges which do not require college preparation but which receive their beginning students directly from high school (namely, the School of Mines and Metallurgy, the College of Engineering and Architecture, the College of Pharmacy, the College of Science, Literature, and the Arts, the General College, and the College of Agriculture, Forestry, and Home Economics), the factor found to correlate most closely with grades made in the University was the average high school mark. By employing batteries of achievement and aptitude tests requiring from two to three hours, it has been found that the accuracy of prediction may be materially increased and, in some schools and colleges, unsatisfactory students may be identified with considerable exactness. These batteries include tests previously developed independently of this investigation as well as tests prepared especially or adapted for use in these studies. Various combinations of tests have been evaluated on the basis of their contribution to prediction of success and, by statistical analysis of the items going to make up the tests, the tests themselves have been improved.

In the schools and colleges which require preprofessional college training (the Law School, the Medical School, the School of Dentistry, the College of Education, and the School of Business Administration), the success of students was found to be more closely related to their previous college marks than to their high school scholarship. But also in these divisions of the University success may be predicted with materially greater accuracy if the scores of special aptitude tests of from two to three hours are employed in addition to previous records of scholarship.

While the results of the investigation vary from one division of the University to another, and while our experience with the studies points clearly to more satisfactory results with continued experimentation, the data gathered already justify rather important conclusions and indicate the direction of promising changes in method of selecting, admitting, and advising new students. It is clear, for example, that, with exceptions in the case of very essential prerequisites (such as mathe-

matics for engineering students), the practice of selecting and rejecting students on the basis of the pattern of subjects taken in high school or in preprofessional college years distinguishes to no marked degree the students of greater from those of lesser promise. The studies indicate rather clearly that a superior student body for all divisions of the University may be selected much more effectively by employing as criteria previous average scholarship and a battery of aptitude tests prepared especially for the school or college concerned. It has been particularly gratifying that from the data already obtained in the investigations, bases for prediction of scholastic success, which constitute a definite improvement over means previously evaluated and reported in the scientific literature of the field, seem to have been obtained for all but two or three of the various schools and colleges.

As indicative of the degree of success which has been obtained in the studies, multiple coefficients of correlation are listed below. These represent one of the several highest coefficients obtained between scholastic success and a combination of predictive bases, including always some measure of former scholarship and one or more special aptitude tests.

Division	Multiple R
School of Nursing .....	.71
Medical School .....	.61
School of Dentistry .....	.76
College of Pharmacy .....	.74
Law School .....	.62
School of Business Administration .....	.70
General College .....	.79
College of Science, Literature, and the Arts .....	.68
College of Agriculture, Forestry, and Home Economics .....	.79
College of Engineering and Architecture .....	.76

The following table is illustrative of the degree of accuracy represented by such coefficients. It shows the extent to which students in the College of Pharmacy fell into the quarter of the class which was predicted for them on the basis of combination of high school marks and the Minnesota Reading Ability Test.

PREDICTED AVERAGE BASED ON HIGH SCHOOL AVERAGE AND READING ABILITY TEST	EARNED AVERAGE				Total
	Lowest Fourth	Next Lowest Fourth	Next Highest Fourth	Highest Fourth	
Lowest fourth .....	10	2	0	0	12
Next lowest fourth .....	2	5	3	2	12
Next highest fourth .....	0	3	5	4	12
Highest fourth .....	0	2	4	6	12
Total .....	12	12	12	12	48

Among many points of lesser significance may be mentioned the rather uniformly superior achievement of students who came to the University as freshmen as compared with those who transferred from other educational institutions. That this superiority persisted, even when the compared groups were equated on probable general intellectual ability, indicates, among other things, the loss incident to transferring from one school to another, and suggests the effective quality of instruction in the University. Incidentally, questions of curriculum and guidance

frequently grow out of the studies, and light is thrown on many of them by the data of the investigations.

While the accumulation of the data and the analysis of the records on an adequate scale is an enormous task requiring a period of years for satisfactory completion, the preliminary results already obtained justify the belief that the outcome will represent substantial progress in our knowledge of the various factors involved in the requirements for admission.

Respectfully submitted,

C. M. JACKSON, *Chairman*

## THE DEPARTMENT OF PHYSICAL EDUCATION AND ATHLETICS

*To the President of the University:*

SIR: I submit the report for the Department of Physical Education and Athletics for Men for the academic years 1934-35 and 1935-36.

*The budget.*—The department in the past two years has increased its program in extent and effectiveness. By reason of additions to the physical plant and adjustments in staff, the departmental budget increased in 1934-35 to \$199,409, and in 1935-36 to \$209,009, but this total is still less than the operating budget prior to 1932-33. As against this increase in cost of operation, receipts from admissions to athletic events increased sharply. As most of this increase came from football games, the tabulation below is given to indicate its relation to expenditures from the budget.

Year	Net Receipts
1932 .....	\$146,083.69
1933 .....	179,167.38
1934 .....	256,152.28
1935 .....	270,260.51

In the twelve years since the Stadium was constructed, net earnings from football receipts have been \$2,984,415.39. The Stadium, the oldest unit of the athletic plant, is now in need of repairs and will require a considerable expenditure of money during the next three years to keep it in serviceable condition.

*Significant activities.*—Items of special importance and interest during the past two years are listed briefly:

1. Completion of the Athletic Building, which has provided, in addition to working space for the staff, ideal facilities for the extensive development of intramural and recreational programs for students and faculty, and adequate facilities for teacher training and physical education programs.
2. Completion of the terrace addition to the new building, providing additional locker room, equipment room space, and giving a finished appearance to the physical units.
3. The rebuilding of the press box in the Stadium to meet present-day requirements.
4. Completion of alterations in the arrangement of practice and play fields, providing additional space.
5. The publishing of a handbook on athletics which is given to every freshman. This covers every phase of the department's program and facilities, and is designed to invite the participation of the male student.
6. The conduct of the Western Conference Swimming Meet in 1936, and the award to the University of Minnesota of the National Collegiate Swimming Meet for 1937.
7. The conduct of the Northwest-International Swimming Meet in 1936.
8. The conduct of the Regional Olympic Basketball trials, and the Sectional Olympic Track trials.
9. The construction of a golf gymnasium on the second floor of the Stadium in the north wing, for the use of student and faculty members, operated under the supervision of an instructor in golf.
10. The conduct of an intersectional hockey series with Yale University in 1935 and with Princeton University in 1936.
11. Assistance with the conduct of the Northwest Gymnastic Meet.
12. The conduct, by the Senate Committee on Intercollegiate Athletics, of the annual football team banquet at the close of the season, this banquet replacing a number of private banquets for the team.

13. The establishment of a one-week intensive coaching course, which included instruction in the coaching of all interscholastic and intercollegiate sports, and the development of recreational and intramural programs. The enrolment was large.

14. The presentation of a bust of the late Dr. H. L. Williams to the department, by "M" men, alumni, and the Senate Committee on Intercollegiate Athletics.

15. The winning by the football team, of trophies of national importance, including the Rockne Trophy, the Toledo Cup (two years), and the Italian-American Trophy. Special mention is made of a new official game trophy which promises to rank with the Minnesota-Michigan Little Brown Jug, namely, the Minnesota-Iowa pig, Floyd of Rosedale, presented by Governor Floyd B. Olson, and won for the first time by Minnesota.

16. The contact with alumni groups on the west coast in 1935, with meetings in Omaha, Denver, San Francisco, Berkeley, Los Angeles, and Portland.

17. A change of utmost importance in the handling of athletic receipts involving the establishment of an athletic reserve endowment fund.

18. The retirement of Dr. L. J. Cooke after thirty-nine years of service to the University and the Department of Athletics.

*Intercollegiate athletics.*—A statistical tabulation attached to this report indicates the extent of intercollegiate activities in the past two years; this is summarized below:

	1932-34	1934-36
Number of contests .....	192	234
Number of conference contests .....	93	118
Number of nonconference contests .....	99	116
Contests won .....	121	136
Contests lost .....	66	84
Contests tied .....	5	3
Number of varsity men competing .....	962	1,130
Number of freshman candidates .....	1,754	2,095
Total intercollegiate participation .....	2,616	3,225
Conference championships .....	4	6

The championships include two national and conference championship football teams, one conference championship baseball team, conference singles and doubles championships in tennis in 1935, and one conference championship in hockey and in gymnastics. The football team has established a remarkable record, being undefeated in three years, and suffering only three defeats since 1932.

*Intramural sports.*—There has been a steady increase in the number of students participating in intramural play. In some sports the increase has been quite sharp because of the additional facilities made available by the Athletic Building. Swimming events have been possible in the new pools that could not be held in the Armory pool. In 1935, there were 38 meets for 210 boys. In 1936, there were 55 meets for 270 boys. The number of men using the pool for recreational swimming more than doubled. Similarly, participation in basketball increased, with 365 games played in 1936, as against 245 games in 1935, and a large, but unrecorded number of boys using the basketball equipment for practice during the day.

With the exception of the tennis courts, where play has increased over 1935, outdoor sports were handicapped by lack of playfields; it was necessary to use fields removed from the campus. In spite of this, diamondball contests increased from 149 contests to 225, and the number of players from 1,110 to 1,425. The additional games, both indoor and outdoor, have increased the cost of operation by reason of additional equipment required, and added cost of officials. The intramural program includes 29 sports, tournaments, or events, with 8,438 boys participating in 1935, and 9,599 in 1936.

*Physical education.*—There has been a decrease in the number of students registering for courses in sports education. While part of this is due to difficulty



in arranging programs for students, there is a tendency toward decreased enrollment. Past experience has shown that men who should elect recreational sports and who need them most, will not enroll for them. It is therefore recommended that all boys who are physically able should be required to have at least one year of sports education.

Present-day social trends make it necessary more than ever before for young men to learn carry-over recreational games while they are in school. A sports survey course was offered which gave instruction and actual play experience in volleyball, touchball, boxing, wrestling, swimming, basketball, handball, squash racquets, tennis, golf, and softball. All men taking this course in any one quarter received instruction in each of these sports.

This department is providing the facilities for, and carrying on, a physical education program for about two hundred boys in the University High School.

*The Minnesota study of physical education and related activities.*—In a desire to improve the professional preparation of physical education teachers, and recognizing that in the broad field of physical education, adequate research and study have not been made to serve as a basis for the preparation of this teaching group, a special research study was originated. The chief burden of the study is being carried by Carl A. Nordly, assistant professor of physical education at Minnesota, and research director for the project. Work has been in progress in two towns, Litchfield and Glencoe, and has progressed sufficiently to indicate that the research will be of definite value.

Respectfully submitted,

FRANK G. McCORMICK, *Director*

## THE DEPARTMENT OF PHYSICAL EDUCATION FOR WOMEN

*To the President of the University:*

SIR: I submit my report on the Department of Physical Education for Women for the biennium 1934-36.

*General trend of the program.*—Effort has been made to adapt the program of activities to the needs and interests of the students. It has been modified from time to time in response to definite shifts of interest on their part.

Students in colleges that require a specified amount of physical education for graduation have taken a written examination on entrance to the University which has included questions on individual and dual sports and games, team games, fundamentals of motor activity, and health knowledge. On the basis of this examination and the posture examination and assuming that her organic condition warranted it, the student has been held for classes in areas of the program in which she fell below the exemption level. If the student has been found to need orthopedic gymnastics, this has taken precedence over other activities, for a part at least of her course. Aside from this compulsion, she has been permitted free choice among the courses offered in the bulletin. The students in the colleges which do not require physical education for graduation receive only the posture examination and a few words of explanation and advice.

*Women's Athletic Association.*—The recreational activities have had student participation as follows:

	1933-34	1934-35	1935-36
Total participation .....	4,537	6,529	5,191
Total separate individuals .....	.....	1,352	960

Each of the recreational activities was directed by a student sport leader with the help of a faculty adviser.

There has been a slowly increasing interest in mixed participation by men and women students in those activities which are especially adapted to it. This tendency exists in several universities.

The high school play day gathered together more than two hundred fifty girls from the Twin Cities, St. Louis Park, North and South St. Paul, Anoka, and other neighboring cities.

The college play days give opportunity for students in various parts of the state to meet each other in the spirit of play and become acquainted with the different collegiate institutions of the state. The state W.A.A. includes as member organizations St. Olaf College, Macalester College, Carleton College, College of St. Catherine, Hamline University, Concordia College, Gustavus Adolphus College, Mankato State Teachers College, Duluth Junior College, and the University of Minnesota.

*The national conference of the Athletic Federation of College Women.*—This conference was held at the University of Minnesota on April 23, 24, 25, 1936; 110 institutions were represented and 315 people, 24 of whom were faculty advisers, registered. The program included round-table discussions for students and for the advisers in a separate group, general meetings, a tea given by W.S.G.A., two tours—one of the campus and the other of the city—the annual Orchesis recital, small committee meetings, and a formal banquet.

In 1935 the W.A.A. asked to be allowed to take advantage of the privileges of the Student Organization Fund. This arrangement and Mr. Geddes' assistance proved very helpful in the management of the affairs of the organization.

In the new annex to the Women's Gymnasium there is a conference room for the use of W.A.A. It will take the place of the room in the present building which was originally used for a W.A.A. Board room but had to be confiscated for other uses as the building became inadequate in space. The new room will further the activities of this organization materially by giving a feeling of permanence and by affording a central meeting place.

*General College experimental programs.*—The General College has held its women students for a requirement of two years in physical education on an experimental basis. Two significant changes in the program will be made in 1936-37: the team game requirement will be removed, and students disclosed by the classification examinations as being gifted in a motor way will be permitted to elect, to a limited extent, leadership courses, such as the camp leadership course or the recreational leadership course, in substitution for strictly activity courses.

It is a question whether the team games, which are so valuable on the secondary school level because of the opportunity they afford for the expression of desirable social behavior, should be required on the college level even though the girl has escaped such experience previously. Antagonism toward this requirement was voiced often enough to General College advisers to make it seem desirable to suspend it this year and observe the result. Election of team games will always be possible.

A course of lectures dealing with physical education and health has been required of all General College freshman girls once a week for the past two years. Attendance was recorded but not required.

*Experimental program in fundamentals for elementary school children at the Motley School.*—This work has been carried on for two years. It has comprised teaching two grades twice each week, conferences with other instructors who were teaching in four other grades, conferences with the room teachers, and with other people.

*Visual education.*—Experiments in visual education have been made possible by a grant for the preparation of films by the Visual Education Department to be used in the teaching of the dance and horseback riding.

*Overlapping study.*—After two years of work the study of the professional curriculum for overlapping of courses has been finished. In general it shows little overlapping. Where it exists it seems to be legitimate either because the topic is a large one and needs emphasis in another area of the field, or else it is being reviewed after an appreciable length of time. Undoubtedly there was more overlapping when the study was begun. By the time the revisions of courses were reported in the spring of 1936, each staff member had had an opportunity to study the content of the other members' courses, broken down into topics of longer or shorter duration, and to discuss with each other apparent overlappings. The participation in the study, therefore, has proved stimulating.

*Experimental program in the University High School.*—In the fall quarter of 1934 an experimental program in physical education was begun in the University High School. The purposes were to:

1. Make possible a measurement of changes in the girls in physical fitness.
2. Develop a program which would enlist the willing co-operation of the girls.
3. Change the spirit of these classes to make them desirable practice teaching situations for students of the professional course.
4. Eventually develop a program which would approach the ideal for high school girls.

In 1935-36 physical education was required for all girls by the University High School administration. The principle at the center of the curriculum of activities for the junior high school has been to educate each individual to make intelligent choice among the elective activities in the program of the senior high school and find satisfaction in participating in them. The activities forming the curriculum of the senior high school are selected with the purpose of building a background of skills in recreational activities which may be continued in adulthood.

*Professional Course for Teachers of Physical Education.*—As a result of the somewhat improved economic conditions, in 1935-36 no graduates who wanted positions were unemployed. The inexperienced graduates have practically all obtained positions in which they were required to teach other subjects besides physical education. During the spring of 1936 further signs of revival were evident in requests for experienced teachers for full-time positions.

All of our students are considered on probation for the first year of the course. To assist us in determining a student's likelihood of success in this field, we adopted, in the fall of 1935, the method of sending a request for information to three persons, including the high school principal and the physical education instructor. This has brought valuable information and was of assistance in guiding the student.

*Annex to the Women's Gymnasium.*—An annex to the gymnasium is a welcome addition to our plant. Its two principal provisions are a sports room with a dirt floor and a regulation 75-foot swimming pool with shower room, dressing room, etc. These two facilities will afford increased comfort and will enable us to cut down the size of our crowded classes. The sports room will be equipped for practice in the individual activities that are becoming more popular in the program, such as golf, tennis, etc. The new pool will be used for those students who are already at home in the water, leaving the present pool for the instruction of beginners. A folding soundproof partition which is to be installed in one of our two large exercise rooms will make it possible to carry on the orthopedic work in a light, airy upstairs room instead of the basement, still leaving a moderate-sized room for other activities.

Respectfully submitted,  
J. ANNA NORRIS, *Director*

## THE EMPLOYMENT BUREAU

*To the President of the University:*

SIR: I submit the 1934-36 report of the Employment Bureau with its divisions of student employment, Stenographic Bureau, and office personnel.

Comparison of the totals in Table I with those of the biennium immediately preceding (6,190 placements, \$227,644.20 earnings) shows a marked upward trend toward the predepression level. Placements in certain types of work, however, notably waiter and housework, have decreased. An investigation of the reasons for this brought out several facts. Girls who might normally have accepted domestic work applied for and were accepted on federal aid. Federal aid also affected the number of applications for waiter work. The requests for waiters have definitely been reduced by the bureau's policy of directing early applicants for such work to the different cafeterias and tearooms with a resulting engagement in the spring or summer for the next year. In fact, the above totals of placements would be increased in several cases if records of this advisory service were kept.

*Full-time placements.*—Full-time permanent placements for students increased from 44 to 154 in number, and from \$43,540 to \$125,960 in earnings. Because of its situation as a central service, the Employment Bureau receives many requests for graduates, or candidates with some university training, who are seeking full-time employment. There is a continual increase in the registration of such people with us. When an opening is for a graduate of a specific school, the request is referred to that school. If, however, requirements can be met by graduates of the College of Science, Literature, and the Arts or candidates from various schools, the Employment Bureau makes the effort to fill the position, either with its own registrants or through co-operation with the schools.

Because of the inadequacy of the federal allotments to cover the expenses of the self-supporting student, there has been considerable overlapping of Employment Bureau and federal aid enrolments. Since the director of the Employment Bureau was also secretary of the Committee on Student Work Relief it was necessary to use the employment office as a contact office for the federal aid students most of the year.

*Stenographic Bureau.*—From its one-typewriter-beginning the Stenographic Bureau has grown until in peak periods it has employed as many as fourteen typists a day. During the past year, with one exception, all typists employed were either students or individuals whose earnings went to the support of students.

The increase in faculty and departmental work is encouraging. Outside work has been refused except when the load of the Stenographic Bureau was light, and the income was important to student earnings. Practically all of the margin of profit in the enterprise has of necessity been spent in expanding equipment.

*Office personnel.*—Of the 51 placements in classified positions during the biennium, 10 were promotions.

Time has not permitted extensive office reorganizations. That service has been confined to a few surveys and recommendations on files, arrangement, routine, etc.

The duties of the office personnel adviser in the capacity of secretary to the Committee on Classification of Nonacademic Staff demanded all possible attention to the accumulating of data and the compiling of a classification scheme for the university nonacademic personnel.

TABLE I. STUDENT EMPLOYMENT BUREAU: PLACEMENT AND EARNINGS

JOB CLASSIFICATION	APPLICANTS REQUESTED				APPLICANTS ACCEPTED				AMOUNT EARNED		TOTAL EARNED
	Men		Women		Men		Women		1934-35	1935-36	
	1934-35	1935-36	1934-35	1935-36	1934-35	1935-36	1934-35	1935-36			
<i>Students</i>											
Athletic events .....	1,023	1,017	.....	.....	1,023	1,013	.....	.....	\$ 2,265.96	\$ 2,310.37	\$ 4,576.33
Chauffeur .....	31	74	.....	.....	31	73	.....	.....	910.70	1,346.00	2,256.70
Clerk—soda fountain .....	1	1	.....	2	.....	.....	.....	2	.....	200.00	200.00
Clerk—store .....	53	107	8	32	45	102	8	32	2,893.10	3,914.00	6,807.10
Draftsman .....	14	35	.....	.....	14	35	.....	.....	378.75	2,917.30	3,296.05
Housework .....	.....	3	280	288	.....	.....	115	111	12,170.30	10,562.25	22,732.55
Janitor .....	13	18	.....	.....	10	13	.....	.....	637.00	1,930.00	2,567.00
Laboratory helper .....	1	.....	.....	.....	1	.....	.....	.....	60.00	.....	60.00
Library .....	2	.....	1	.....	2	.....	1	.....	470.00	.....	470.00
Manual labor .....	2	32	.....	.....	2	32	.....	.....	366.00	6,065.00	6,431.00
Musician and entertainer .....	59	14	1	3	59	14	1	3	324.25	320.00	644.25
Nursemaid .....	.....	.....	11	13	.....	.....	6	12	200.70	228.35	429.05
Odd jobs .....	203	301	.....	4	203	301	.....	4	715.48	1,513.97	2,229.45
Office work .....	95	113	419	545	95	111	415	561	16,863.45	29,327.64	46,191.09
Oil station .....	.....	3	.....	.....	.....	3	.....	.....	.....	795.00	795.00
Service jobs .....	33	29	16	2	33	25	14	2	2,761.95	6,436.00	9,197.95
Settlement house .....	9	8	1	1	7	8	.....	.....	1,215.00	2,235.00	3,450.00
Summer resort and camp work .....	4	17	6	3	2	16	5	3	620.00	3,305.00	3,925.00
Telephone operator .....	8	.....	4	7	8	.....	2	6	2,029.00	1,505.00	3,534.00
Translating .....	14	18	5	.....	13	17	5	.....	35.65	755.50	791.15
Tutor and teaching .....	40	70	23	25	38	66	22	22	723.80	1,673.10	2,396.90
Usher .....	4	2	.....	.....	4	1	.....	.....	113.00	100.00	213.00
Waiter .....	569	473	70	64	499	449	49	39	28,813.38	24,685.70	53,499.08
Miscellaneous .....	16	63	6	18	14	61	5	17	1,271.10	4,959.90	6,231.00
Sales on commission .....	44	25	2	.....	44	25	2	.....	2,119.50	1,483.00	3,602.50
Permanent full time .....	51	70	55	54	34	33	40	47	60,065.00	65,895.00	125,960.00
Totals .....	2,289	2,493	908	1,061	2,181	2,398	690	861	\$138,023.07	\$174,463.08	\$312,486.15
<i>Nonstudents</i>											
Permanent full time											
Cook .....	.....	.....	8	4	.....	.....	5	4	\$ 1,955.00	\$ 89.00	\$ 2,044.00
Maid .....	.....	.....	8	1	.....	.....	6	1	1,377.00	110.00	1,487.00
Office .....	.....	.....	9	20	.....	.....	9	15	7,480.00	13,735.64	21,215.64
Service .....	.....	3	1	7	.....	3	.....	6	2,200.00	6,470.00	8,670.00
Temporary full time											
Office .....	.....	.....	90	61	.....	.....	90	61	4,336.76	2,487.35	6,824.11
Grand totals .....	2,289	2,496	1,024	1,154	2,181	2,401	801	948	\$155,371.83	\$197,355.07	\$352,726.90

TABLE II. STENOGRAPHIC BUREAU: WORK AND INCOME

YEAR	NO. OF JOBS	INCOME
1934-35 .....	1,060	\$1,779.75
1935-36 .....	1,479	2,630.29
Total .....	2,539	\$4,410.04

TABLE III. DISTRIBUTION OF TYPING JOBS BY ORIGIN

YEAR	FACULTY*	DEPARTMENTAL	OUTSIDE	STUDENT	TOTAL
1934-35 .....	48	21	47	944	1,060
1935-36 .....	134	54	69	1,222	1,479
Total .....	182	75	116	2,166	2,539

\* Personal.

TABLE IV. PERMANENT FULL-TIME PLACEMENTS IN CLERICAL STAFF

	1934-35	1935-36	TOTAL
Classified positions .....	25	26	51
Nonclassified positions .....	12	10	22
Total .....	37	36	73

*Conclusion.*—Activities of the Employment Bureau have been so multiplied that it has long since passed the point of maximum efficiency possible with its limited staff. Business across the counter alone during the past year included the registration of 2,500 students for part-time work, 1,200 students for full-time work, 600 clerical applications, 200 service applications, 8,000 conferences on Stenographic Bureau work, numerous consultations with administrative or faculty members and outside employers, conferences with federal students, and many thousands of interviews about work with students and other applicants. Most requests for help in the 3,324 jobs filled came by telephone, and ten out-calls in filling one job is not unusual. The inevitable result has been, as was indicated in a summary of business for June, 1936, that only 272 of the 352 requests for applicants were filled. Because of the immediate demands of people at the counter it was impossible to devote the proper time to filling positions. The clerical work involved in keeping essential records of every applicant and every job, the filing of applications, etc., was much in arrears at all times. Careful follow-up could not be maintained.

Respectfully submitted,

DOROTHY G. JOHNSON, *Director*

## THE UNIVERSITY ART GALLERY

*To the President of the University:*

SIR: I submit the report of the University Art Gallery for the year 1935-36.

The University Art Gallery has undergone significant changes symbolized in the adoption of its new name. Known earlier as "the Little Gallery," passing months saw its work expanding and becoming of so much importance to two groups—the University as a whole and, in particular, to the six departments teaching art subjects—that the appellation "Little" became a contradiction in terms. The gallery has found frequent opportunity to bring instructive and significant art collections to the campus and to serve the various departments and colleges in their art instruction. It is more appropriate that it should be called, as it now is, "the University Art Gallery."

*Curatorship.*—The past year saw a full-time curatorship established on a twelve-months appointment. The curator spent the summer months touring through eastern cities. During this time she became acquainted with directors of galleries, artists, collectors, and dealers, found out what was available in exhibits, and studied museum practices.

*Attendance.*—The attendance for 1935-36 was approximately 70,000, a substantial gain over the previous year's total of 40,000. The largest attendance was during the International Twentieth Century Exhibit of Painting, the African and Bush Negro Art, and the Contemporary American Artists shows. An item of further interest is that more men students visit the exhibits than women students. Of the total attendance at the gallery, about 5,000 were visitors during the symphony concerts.

*Exhibits.*—Seventeen exhibits were shown during the year. They were:

- |                 |  |
|-----------------|--|
| Oct. 1-16       | Chinese Robes; Chinese Shadow Figures; Japanese Sword Furniture (case show).   |
| Oct. 18-Nov. 3  | International Twentieth Century Exhibit of Painting (expressionism, dadaism, cubism, constructivism, surrealism); Sidney Janis Collection.           |
| Nov. 5-15       | Soviet Graphic Art; Peggy Bacon's Prints.  |
| Nov. 15-Dec. 4  | African Art (sculpture, metal work, appliqué work) and Bush Negro Art. Loaned by Melville Herskovits.  |
| Dec. 6-21       | International Silver Medal Photographic Exhibit.   |
| Jan. 6-21       | Robineau Memorial Ceramics; American Water Color Exhibit; French Gouaches.   |
| Jan. 22-30      | The American Print Makers' Show.   |
| Feb. 1-23       | Contemporary American Artists; Carl Walters' Ceramics (case show).   |
| Feb. 26-Mar. 13 | Kurt Roesch; George Grosz; Harmon Foundation's Exhibit of Negro Art (sculpture and painting).  |
| Mar. 15-21      | Hamilton Easter Field Collection; Sculpture and Paintings by the Zorachs; Binford Paintings; Cambodian Sculpture (case show).                        |
| Mar. 29-Apr. 6  | Exhibition of Big Ten Art Competition; American Children's Work; Traphagen School of Design Exhibit.   |
| Apr. 5-6        | Navajo Indian Exhibition, loaned by Bertram Staples. Demonstration by three Navajo Indians.  |
| Apr. 7-9        | Navajo Rugs; Navajo and Hopi Baskets.  |
| Apr. 11-29      | Faculty Exhibit; Stillwater Art Colony; Valeria Ladd's Paintings and Drawings.   |
| May 1-12        | Students' Exhibition for Mother's Day (an award was made by a "Friend of the Gallery" for best student work and best essay on why it was best work.) |
| May 14-23       | University Photographic Exhibit (microphotos and photo-murals by the Photographic Laboratory); Ross Lewis' Cartoons.                                 |
| May 25-June 15  | Ruth Reeves' Guatemalan Exhibit.   |

*Lectures and demonstrations.*—

Shadow plays—six lectures and four performances (Chinese puppets).

Lecture by Melville Herskovits, Northwestern University.

All-University lecture by William Milliken, director of the Cleveland Museum of Art.

Lectures by Bertram Staples, lecturer on Navajo Indian Art, Coolidge, New Mexico.

Lectures by R. W. Dawson, University of Minnesota.

Lectures by various members of our Art faculty and the curator throughout the year.

Weekly Thursday broadcasts over WLB on the current exhibitions by the Art faculty and the curator.

*Catalogs.*—Three catalogs were printed during the year :

International Twentieth Century Exhibit of Painting.

African Art and Bush Negro Art.

Contemporary American Artists Show.

The high point of the exhibition schedule was reached with the Contemporary American Artists Show in February, collected by the curator, and shown only at Minnesota. The show, with its catalog, attracted widespread attention; individuals, dealers, galleries, and libraries from various sections of the country made requests for the catalog.

*Assistance given other galleries and schools.*—The University Art Gallery has made loans to Stephens' College of Columbia, Missouri, Carleton College, St. Paul School of Art, University of Iowa, various high schools of the city, teachers colleges in the state, and clubs.

Requests have come from many sources for exhibits of materials owned by the gallery or loaned to the gallery, and the Universities of Iowa, Illinois, Michigan, and Wisconsin have voiced a desire to work with the University Art Gallery on circulating exhibits.

*Student framed print collection.*—The gallery owns about six hundred attractively framed color reproductions, etchings, lithographs, etc., which students may borrow as they do library books. These prints may be hung in their rooms for an entire quarter or exchanged as often as the students wish. The charge is 25 cents per quarter. All colleges that have offered a like service to students find the growth of interest is gradual, but steadily increasing. We have found this to be true at Minnesota. Rentals of pictures in the year 1935-36 have been as follows: fall, 53; winter, 76; spring, 129. The above increase may be traced to three factors: (1) increase in interest because of more modern prints bought in 1935; (2) increase in the number of modern prints framed and made available in the latter part of the winter and in the spring quarters; (3) opening of the Print Room.

It has been the experience of the gallery that with but few exceptions, students are apathetic to Renaissance, Italian, Dutch, English, and French schools of painting before the middle of the nineteenth century. The gallery confined its buying in 1935 to prints of the postimpressionist, expressionist, and contemporary schools. The fact that more than 60 per cent of these prints have been rented upon completion of the framing has justified the gallery's belief that students prefer modern painting; however, a study will be made of this.

The framing of prints is a problem to galleries who make prints available to students. Our experience is that the gallery can construct more satisfactory and less expensive frames by doing the work in its own workshop. This practice has been followed here since January.

*The Print Room.*—The newest of the gallery's display rooms, 315 Northrop Memorial Auditorium, was opened late in April, 1936. This well-lighted space

shows the prints as they will be seen on the students' walls. The objectives of this room were to make available:

1. Display space for the student print collection.
2. Display space for small exhibits not suited to the gallery.
3. Display space for exhibits requested by departments of the University and Twin City schools.
4. A depository for the Carnegie gift collection of books.
5. A depository for the Carnegie print collection.
6. A depository for our clipping file on the history of art.
7. Printed information beside each picture displayed to assist in art appreciation.

There has been ample evidence of the room's value in fulfilling the objectives enumerated above. Already the room has been in continuous use for hanging exhibits requested by various departments and high schools. The curator has found that considerable benefit may be afforded the departments teaching art by scheduling shows which will fit in with classroom instruction. During this next year this practice will be important in scheduling shows for the gallery. City schools, the University High School, the Departments of History, Romance Languages, Journalism, Art Education, Home Economics, and the General College have made use of gallery features in the past, and it is for further co-operation that the Print Room will be valuable. Despite short notice, the gallery is able to hang an exhibit in this room, when it would be impossible to hang one in the main gallery where space must be reserved for the scheduled exhibits.

*The Fine Arts Room.*—This room, which opened in February with a large reception, has attracted widespread comment, and has proved consistently popular, the attendance running on an average of seventy-five people a day in the winter quarter, and about twenty people in the spring quarter.

Modern decoration was chosen for the room because its architectural quality made it more in keeping with the monumental architecture of Northrop Memorial Auditorium. The Oriental method of appreciating fine art was the inspiration for the design and for placing one *objet d'art* at a time in the room. The first exhibit was a painting by Georgia O'Keeffe which the University has acquired. From time to time other fine works were shown here. With the hope of filling a long-felt need, namely that of making an easy contact possible between faculty and students, the Faculty Women's Club named a hostess for each day in this room. It was the duty of these hostesses to meet students who might wish to discuss things of varied nature or who just wanted to become better acquainted.

The Carnegie gift books on art were placed in this room. Students not taking art ordinarily do not have contact with art books and this makes it possible for them to handle the books. Since the room was opened hundreds have taken advantage of this opportunity, and each afternoon there is a constant ebb and flow of visitors.

*Additions during the year.*—Besides the two display rooms described above, the gallery added eight glass cases to its equipment. In these cases the more fragile and precious art objects were displayed and they have contributed greatly to the gallery's exhibition possibilities. Sculpture stands, removable display shelves, and temporary cases for the gallery proper were also added to the equipment this year. Two work and storage rooms at either end of the main exhibit rooms alleviated somewhat the overcrowded and inadequate storage space.

The gallery has added several originals to its collection. There is no desire to build up a gallery where these original works will hang permanently; rather, they are being used in a circulating exhibition, placed in classrooms, halls, dormi-

atories, the hospital, in offices, and wherever students in all branches of the University may see them. The list of these originals follows:

Georgia O'Keeffe—"Oak Leaves, Pink and Gray."  
 John Marin—"Seascape."  
 Nicolai Cikovsky—"On the East River."  
 Paul Sample—"Western Landscape."  
 Arthur Dove—"The Gale."  
 Constantine Pougialis—"Head."  
 Kurt Roesch—"Water colors and oils."  
 George Grosz—"Central Park West."

A few original lithographs and etchings were purchased for the student framed print collection.

The Carnegie Corporation made the gallery a gift of almost two hundred art books covering a wide field of subject-matter and, in addition, made a gift of almost two thousand photographic reproductions of art objects ranging from architecture, painting, and sculpture to textiles. These have added most materially to the success of the Print Room. Mrs. Arthur Harris and Alfred Stieglitz have given to the gallery a very helpful group of art books. Mr. William Milliken, director of the Cleveland Museum, presented the gallery with a water color done by one of the most promising of the Cleveland water colorists. The School of Architecture gave the gallery a number of original etchings for the student loan print collection.

*Federal students.*—Since its inception, the actual labor incident to running the gallery has been performed by federal aid students. This year there were twenty-four of them employed in the gallery, each working on an average of forty-three hours per month.

*Summary.*—It is hoped that the activities of the gallery carried on during the past two years are laying the framework for a University Art Gallery of great significance to the whole University. It has been the constant goal of the curator to make the gallery reach all corners of the campus, and the response evoked from medical students, law students, and others training for various professions, affords a high degree of encouragement. The first function of the gallery is the cultural and esthetic service provided to the great mass of the student body. But the work of the gallery can become an educational adjunct to all departments of the University. Necessarily those most benefited by this work will be the six departments teaching art subjects, but there is ample opportunity for service to others. The University Art Gallery has been pioneering; always the route has been full of promise; it has been prospecting and the material evidences should be most gratifying. It is hoped that the gallery has now earned a recognized place among the departments of the University and that succeeding years will find it, as it grows and develops, more and more vital in the life of the campus.

Respectfully submitted,

RUTH E. LAWRENCE, *Curator*

**ADMINISTRATIVE AND SERVICE UNITS**

## THE UNIVERSITY LIBRARY

*To the President of the University:*

SIR: I submit a summary report of University Library activities for the biennium 1934-36.

*Increase of activity.*—The outstanding characteristic of the work of the last two years has been the steady increase of activity in every department of the library. Both the quantity and quality of this work have been profoundly affected by the various relief projects supported by state and federal funds. In many ways these have resulted in distinct advantage to us. They have furnished workers varying all the way from competent, professionally trained persons to quite unskilled, but fairly intelligent, persons of every degree of education, from high school students to college graduates, as well as a few who were manifestly incompetent. Some of these skilled unemployed could be put at professional or semiprofessional tasks such as assistance at the service desks, bibliographic projects, and the like. This was particularly true in 1934-35, much less so in 1935-36. Most of these "relief aids" in both years were employed in arranging, listing, and in other ways taking care of, the enormous number of duplicate volumes, pamphlets, and other material which has been collecting almost since the beginning of the library in 1868. Much valuable material which could not be well cared for before has been added to the library collection, particularly pamphlet material and added copies of usable books. Thousands of volumes have been listed and offered in exchange to other university libraries and educational institutions. From these exchanges we have received many individual volumes, sets, and parts of sets which have materially added to our resources.

At the service desks of the circulation and reference departments of the general library and the branch libraries the additional messenger service received from these relief sources was the only means we had of maintaining anything like satisfactory service to meet increased demands. Unless this service continues until an increase of the regular staff becomes possible, not only will the quality of our service be lowered, but it will be quite impossible to meet many of the demands now reasonably made upon us by faculty and students alike.

On the other hand, this increase of unskilled or partially skilled assistants has not been without its disadvantages. Much time of the regular staff has been used in supervising the work of persons who had to be taught the duties of their new positions before they could be of much use to us. The irregular schedules of these workers have not permitted the most economical use of their time, while the uncertainty of the terms of service has made it out of the question to engage them profitably in work requiring any considerable amount of consecutive time for completion. We have also been greatly affected by the large number of research projects carried on throughout the entire campus by faculty members aided by workers of this kind. A very large proportion of these workers has been sent to the library to work on these faculty projects. Most of them have been quite unskilled in bibliographic work and have required much more than the normal amount of assistance to orient them and make their work reasonably accurate. This has inevitably diminished the amount of time available for the normal needs of the university faculty and students. Altho these outside projects were ostensibly supported from budgets of the departments to which the workers

were assigned, they have meant a very great increase in the consumption of administrative blanks and of other supplies which had to be furnished from the library budget.

The number of nonuniversity patrons, including many former students not now registered in the University, is already large and is growing. The whole question of nonuniversity use of the University Library is being investigated and a special report will be presented later.

*The library collection.*—During the biennium the library has increased to a total of 833,513 volumes. Of these, 32,562 were added in 1934-35 and 48,459 in 1935-36. There are in addition 8,171 volumes in the school and station libraries at Crookston, Grand Rapids, and Morris. The drop in the first year of the biennium is due largely to the shrinkage of the American dollar in foreign exchange and to the greatly increased number of current books of only temporary value required for class purposes. Contrary to general opinion, these are not economical purchases for the library. In most cases they must be acquired at current rates which are usually higher than those for older books or secondhand books; they are bought in large numbers and are often superseded or become useless in a very short time.

Faculty members have had a major part in the selection of the books acquired in connection with the reference and research material, as well as complete responsibility in the selection of titles for "reserve use." This has resulted in rather high standards of selection and the high percentage of efficiency of the collection as a whole has been maintained and perhaps even increased.

During the year an addition to the stacks in a portion of the basement reserved for this use was authorized. The last possible major shift in the present stack was made in the summer of 1935. The stack will in all probability be completely filled by 1937 or 1938. This will be five or six years longer than the ten-year limit which was placed when the building was first occupied.

*Two major needs.*—The two greatest present needs of the library remain as they have for several years past: first, more funds for books to meet the growing research and undergraduate demands of the institution; second, a professional staff large enough to take care of the addition of these books to the library, and to make them of service when they are added. Requests for increases in both book funds and staff are not caused by any attempt on the part of the library to extend its jurisdiction or unnecessarily to enlarge its scope, but by the demands made upon it by the university public who, in the last analysis, determine the type and amount of library facilities which should be available. The University of Minnesota Library is still (as it has been for several years) tenth among the university libraries of the country and fourth among those of the state universities. Illinois, California, and Michigan outrank it among state institutions, in the order named.

One of the points deserving brief mention is the crowded condition of the reading rooms. To a very considerable degree, this is due to an increase in the tendency, notable for many years, to use the library as a clubroom by students who could quite as well use other places. Only two solutions seem possible. First, the abandonment of the present policy of centralization and the establishment of independent or semi-independent library branches throughout the campus. Considerable pressure is already being brought by individuals and groups to restore this situation, abolished by the regents in 1921 because of its manifest disadvantages. The second is the provision of more study halls, reading rooms, and rest rooms so that the growing number of students who must have a place to spend their vacant periods can have no legitimate excuse for excluding from

the library those whose primary purpose is to work with the books there. The library building is already accommodating far more persons than the final maximum number expected when the plans were completed in the fall of 1921. The ability to meet this increase is a compliment to those who were responsible for the original plan.

Respectfully submitted,

FRANK K. WALTER, *University Librarian*

## THE GEOLOGICAL SURVEY

*To the President of the University:*

SIR: I submit a report of the work of the Minnesota Geological Survey for the period from July 1, 1934 to June 30, 1936.

The survey was allotted \$12,000 for the biennium begun July 1, 1934. Practically one half of this was expended each year of the biennium continuing projects outlined in the previous reports.

*Investigations completed.*—The following important projects have been completed and published:

Bulletin 25. *The Architectural, Structural and Monumental Stones of Minnesota*, by George A. Thiel and Carl E. Dutton, 160 pages. This describes the quarries and stone products of Minnesota, the distribution of the raw materials and of the finished products. The technology of preparation of stone for building purposes is briefly treated.

Bulletin 26. *The History of the Upper Mississippi River in Late Wisconsin and Postglacial Time*, by William S. Cooper, 116 pages, 1935. The work for this report was supported by the Research Fund of the Graduate School of the University of Minnesota and by the Elizabeth Thompson Science Fund, but since the subject treated is chiefly geological it is published as a bulletin of the Geological Survey Series. The field work on which the report is based is the foundation for Dr. Cooper's botanical studies of the area, which will appear later.

Bulletin 27. *The Geology of the Minneapolis-St. Paul Metropolitan Area*, by George M. Schwartz, 207 pages, 1936. The area treated includes Minneapolis, St. Paul, and the suburban centers near them. It is an area of about two thousand square miles and is underlaid by nearly flat-lying sandstone and limestone beds, which are cut by ancient river channels that are filled with glacial drift. Excavation for sewers, water systems, etc. in these buried channels is very difficult because the rocks do not stand, and some of the work must be done under heavy air pressure to prevent flooding of the workings. This is expensive and often results in serious accidents. The cost of excavations in this loose glacial material is much greater than in the consolidated rocks that lie between the channels. By mapping these buried channels accurately it is possible to cross them at right angles or to avoid them.

*Additional investigations.*—During the summer of 1934 Dr. F. F. Grout made a detailed survey of outcrops along the shore of Lake Superior in Lake County. A belt several miles wide was mapped. The main exposures of anorthosite in Minnesota lie in this belt.

In 1935 part of the time was devoted to a reconnaissance between the belt of anorthosite and the Duluth gabbro, to correct the state map and to ascertain the probable source of the anorthosite. The latter part of the season of 1935 was devoted to magnetic mapping of the western end of the Gunflint iron-bearing rocks.

During the summers of 1934 and 1935 Dr. C. R. Stauffer, assisted by Harlan Bergquist, made plane table measurements of important Cambrian sections, and contacts were established on a sea-level basis. Certain characteristic faunal zones were established and traced throughout the sections exposed along the St. Croix and Mississippi rivers. A number of sections were prepared for and sent to the Kansas Geological Society.

During the field season of 1934 Dr. G. M. Schwartz was associated with Dr. Grout in the work of mapping the anorthosites of the north shore of Lake Superior. The field season of 1935 was spent in completing the field work on the Minneapolis and St. Paul Metropolitan Area and in preparing maps and manuscript. The results are included in Bulletin 27.

In 1934 Dr. Thiel began work on water supplies of central and northeastern Minnesota; the establishment of numerous CCC camps in the Superior National Forest caused a demand for data on subsurface water supplies in that area. In the summer of 1935 he began field work on water resources of the south half of Minnesota, covering the area from Minneapolis to Mankato and eastward from Mankato to Rochester.

Dr. John W. Gruner, assisted by Dr. William Gardner, devoted the 1934 field season to further study of the Knife Lake series and adjoining formations. The study was extended eastward as far as Sea Gull Lake. Several days were spent in tracing an iron ore conglomerate on the Mesabi Range that recently had been discovered. In the season of 1935 the mapping of the Knife Lake series was practically completed. About three weeks of the season were spent in investigating possible gold areas. Gold was discovered in two areas, but not in commercial amounts.

*Quarry exhibition.*—Dr. George A. Thiel has prepared a small, but very excellent, exhibit of characteristic building and ornamental stones of Minnesota. These are on display in Pillsbury Hall, together with a map showing the locations of the quarries from which they came. All of these stones are polished specimens and were donated to the University by the quarrymen who supply them to the trade.

Respectfully submitted,  
W. H. EMMONS, *Director*

## THE MUSEUM OF NATURAL HISTORY

*To the President of the University:*

SIR: I submit the following report of the condition and activities of the Museum of Natural History for the biennial period July 1, 1934 to June 30, 1936.

*Museum.*—As long as the museum is confined to its present restricted quarters there can be no considerable growth in the direction of large exhibits. Efforts, therefore, have been directed toward installing medium sized groups and in increasing the number of the small portable loan groups, the demand for which is rapidly growing. While not as imposing as the large exhibits, these small groups are, perhaps, as attractive and certainly have greater educational value than the larger displays. Each one is a special close-at-hand study and is carefully constructed so as to emphasize the subject presented. The carefully studied arrangement, colored background, accessories, and special lighting device serve to bring out the natural beauty of the setting, where beauty is possible. These small groups now number 133.

*Attendance.*—The attendance has averaged 421 each Sunday, with a total attendance of 10,939, the largest on any one day being 667.

*New exhibits.*—Five medium sized groups have been added; and fifteen portable groups. An exhibit has been installed designed to show, by means of actual specimens, salient features in the molt of birds, migration of birds, adaptive variation in the eggs of birds, and instances of marked adaptation of structure in birds to habit. An Adelie penguin brought back from Little America by the second Byrd expedition was obtained by purchase and is now displayed. It has special value as a peculiar bird type and has attracted considerable attention.

*Accessions to the museum.*—By donation: from fifty-four different sources gifts of natural history material have been made and these have for the most part been incorporated in the study collections. There were also additions by purchase and through field work.

*Study collections.*—The study collections of birds and mammals are now in excellent and readily accessible condition and are open for study and comparison to all well-accredited students.

*Publications.*—The director has revised the two volumes of *The Birds of Minnesota* for a second edition which is now in the hands of the printer. The bimonthly *Bird-Lore* articles have been continued.

*Photography.*—Fifteen hundred feet of 16 mm. colored and black and white, and 821 feet of 35 mm. motion picture film have been made and 3,946 feet of 35 mm. old film have been reduced to 16 mm. film. Also 272 negatives, 120 lantern slides, and 113 prints have been made. A complete set of colored slides from the colored plates in *The Birds of Minnesota* has been prepared for lecture and loan purposes. Two hundred feet of slow motion movie film of an eagle in flight was purchased.

*Co-operation.*—Side by side with the growth of the material and the purely scientific and research work of a museum its value as a general and special educational unit should develop. Under favorable circumstances and judicious fostering this educational function of the museum may be made to rival or even dominate its other activities. Too frequently, however, even with the modern, well-developed museum the teaching value of such an institution is lost sight of or minimized by the general body of educators. The word "museum" seems still

to signify a collection of objects more or less unusual or startling for the entertainment of visitors. But the advanced museum of today is making every effort to find a legitimate place in the teaching field, where it properly belongs. The larger, independent museums have succeeded fairly well but where the museum is an integral part of a college or university it seems more difficult to secure such recognition. The display features of the museum are too apt to subordinate all else and an estimate of the value of the museum comes to be based upon its material possessions. The value for show purposes and in dollars and cents of these material possessions is but a small fraction of their intrinsic worth, if properly handled. Used as a basis of intelligent first-hand teaching and as a means of co-operative dealings with other educational activities, to place a money value on museum exhibits is like valuing a fine collection of paintings by the cost of the canvas, paint, and frames. The Museum of Natural History labors under a handicap in not having a building of its own but the staff has not been negligent in developing its educational side as best it could under the circumstances.

A total of 231 lectures, with an estimated attendance of 21,418, has been given by members of the staff during the biennium. A majority of these were to groups of school children; the others were before miscellaneous audiences. A total of 360 portable school groups, 23 motion picture reels, 1,795 lantern slides, 118 bird skins, and 182 mammal skins have been loaned. A new evening extension course in bird study was given under the auspices of the museum. Mr. Kilgore has continued to examine Boy Scouts for the bird study merit badge.

*Field work.*—With the exception of one short trip into northern Minnesota in the winter of 1934-35 by Mr. Breckenridge to study the remaining small herd of caribou, the field work has been confined to the vicinity of the Twin Cities.

*Museum donation fund.*—Mr. James F. Bell has continued his monthly contributions during the biennium. This fund has been used to purchase for the museum an Eastman Cino special 16 mm. motion picture camera, photographic supplies, specimens, books for the museum library, and incidentals.

Respectfully submitted,

THOMAS S. ROBERTS, *Director*

## FIELD SECRETARY AND GENERAL ALUMNI ASSOCIATION

*To the President of the University:*

SIR: I submit a report on the work of the field secretary of the University and the secretary of the General Alumni Association for the years 1934-35 and 1935-36.

*Alumni Board.*—The directors for the year 1935-36 were as follows: Orren E. Safford, Law '10, lawyer, president; Erling S. Platou, Medicine '20, physician and surgeon, vice-president; Thomas F. Wallace, Arts '93, Law '95, treasurer; Ernest B. Pierce, Arts '04, secretary; Rewey B. 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; Albert C. Army and Parker O. Anderson, the College of Agriculture, Forestry, and Home Economics; C. F. E. Peterson and Mark Woolley, the Law School; James B. Carey and Thomas Dickson, the Medical School; Coates P. Bull, the School of Agriculture; Joseph Shellman and Lewis W. Thom, the School of Dentistry; Walter H. Parker, the School of Mines and Metallurgy; Charles V. Netz, the College of Pharmacy; Robert J. Mayo, the College of Education; Frank J. Tupa, the School of Business Administration; Elizabeth Bruchholz Avery, Moses Barron, George Earl, Albert C. Godward, Olga Hansen, Ben W. Palmer, William T. Ryan, Orren E. Safford, George M. Shephard, and O. S. Wyatt, directors at large; W. F. Braasch, first district; W. L. Burnap, ninth district; Charles G. Ireys, Charles F. Keyes, George R. Martin, Henry F. Nachtrieb, and Edgar F. Zelle, honorary members.

*Alumni Weekly.*—During the past two years the *Minnesota Alumni Weekly* reached the greatest number of readers in its history, with an average circulation per week of approximately 8,500 copies. Several special numbers were addressed to larger groups of graduates. The staff has also produced special publications of interest to alumni, including a souvenir pictorial history of Minnesota football and booklets of information about members of the classes celebrating their twenty-fifth anniversaries during the period. The *Alumni Weekly* serves the alumni body and the University through the publication of news of current events on the campus and facts relative to the activities, the progress, and the problems of the institution. Each issue also carries several pages of news of the activities of Minnesota graduates and former students and of the achievements of members of the faculty. Through the magazine the alumni also enjoy messages from the president in the form of published speeches and reports. During the past two-year period more than thirty articles on current problems—educational and otherwise—written by members of the university staff appeared, in addition to numerous articles prepared by alumni. In the 1936 magazines award contest conducted by the American Alumni Council the *Minnesota Alumni Weekly* was awarded first prize when an article in the magazine was judged the best college news story to appear in an alumni publication during the year. The editorial page also received commendation.

*Alumni Advisory Committee.*—This group of more than one hundred is composed of selected alumni located throughout the state. They meet regularly twice a year, at Homecoming in the fall and on Commencement Day in June.

*Alumni gatherings.*—The last two years have shown a marked rise in interest in university matters, and undoubtedly reflect the unusual record of the 1934 and 1935 football teams. A moving picture record of the team has been made available for various groups and has been in great demand.

Our records show the following functions held under alumni auspices during the biennium:

1934-35.—July 18, St. Cloud; September 6 (State Fair week), School of Agriculture alumni; October 9, directors' meeting; October 19, Pittsburgh; October 22, New York City; November 1, Milwaukee, meeting of Minnesota alumni in educational work in Wisconsin; November 2 (Homecoming), Advisory Committee luncheon, general alumni homecoming dinner, '04 Law annual dinner; November 3, St. Louis; November 16, "M" Club; November 29, New York City, Thanksgiving tea; December 8, Chicago; December 15, Moorhead; January 5, Denver; January 18, Crookston; January 21, Fergus Falls; January 25, Virginia, "M" Club; February 7, Milwaukee; February 15, Willmar; February 16, Portland, Oregon; February 16, Radisson Hotel, alumni in journalism; February 18, Fergus Falls; February 21, Rochester; March 5, Directors' meeting; March 8, New York City; March 25, Albert Lea; March 29, Virginia; April 3, Washington, D.C.; April 3-6, Washington, D.C., American Alumni Council; April 15, Olivia; April 23, Redwood Falls; April 23, New York City, meeting of University of Minnesota chemistry graduates at the time of the convention of the American Chemical Society; April 26, Bemidji; April 27, New York City, concert in Town Hall by Amphion Chorus of Fargo and Moorhead—Howard Laramy, '24 soloist; May 7, alumni directors' meeting; May 23, Fosston; June 4, New York City; June 17 (Alumni Day), Advisory Committee luncheon, Alumnae Club luncheon, class luncheons, tree planting in honor of Maria Sanford, general alumni dinner, Commencement; June 10 to July 2, Omaha, Denver, San Francisco, Los Angeles, Portland.

1935-36.—July 31, Brainerd; September 5, School of Agriculture alumni; September 16, St. Cloud; October 11, Omaha; October 25 (Homecoming), alumni dinner, Advisory Committee luncheon, medical alumni luncheon; October 27, Durham, N.H., first reunion of Minnesota alumni at Durham; November 15, Detroit, Michigan; November 29, New York City, Thanksgiving tea; December 6, Chicago; January 1, Schenectady, alumni entertained at home of Mr. and Mrs. Burt Newkirk; January 3, St. Louis; January 13, Waseca; January 15, Red Wing; January 22, Washington, D.C. (engineers); January 24, Rochester; January 27, Mrs. Wilkin's birthday party; February 17, Albert Lea; February 28, Milwaukee; March 7, Radisson Hotel, alumni in journalism; April 3, Kansas City; April 8, Little Falls; April 16, Virginia; April 19-22, Cincinnati, American Alumni Council convention; April 21, Cincinnati; April 23, Cleveland; April 27, Alexandria; May 7, Chicago; May 14, Schenectady; May 26, Bemidji; June 15 (Alumni Day) Advisory Committee luncheon, Alumnae Club luncheon, class luncheons, general alumni dinner, Commencement.

*Alumni Day.*—On Alumni Day, June 17, the Class of 1910 held its silver anniversary reunion at noon and served luncheon to the largest group that has ever attended a luncheon of this kind. The Minnesota Alumnae Club of Minneapolis held an open house luncheon for members of the classes from 1885 back to 1875.

Over five hundred attended the alumni dinner. A feature of the evening was the presentation of an illuminated scroll to Dr. W. J. Mayo, expressing the appreciation of the alumni body for the service rendered the University as a member of the Board of Regents during the past twenty-eight years.

On June 15, 1936, the Class of 1911 was the silver anniversary class; 150 of its members attended the class luncheon. The Classes of 1901 and 1906 also held luncheon meetings and the Minnesota Alumnae Club again was hostess to the classes from 1886 back to 1875. The dinner meeting in the evening was one of the largest gatherings of Minnesota alumni ever assembled at a function of this sort. More than six hundred attended. Retiring members of the university faculty were guests of honor. Ada L. Comstock, president of Radcliffe College, and Sister Antonia McHugh, president of St. Catherine's College, were also guests; the former gave a brief talk.

*THE PRESIDENT'S REPORT*

*Alumni Directory.*—Provision has finally been made for the tabulation of the list of graduates of the University in one complete addressograph file. This work will be completed by the first of October, and with some additional assistance in the office it should be possible to keep the file up to date.

Respectfully submitted,

E. B. PIERCE,

*Field Secretary of the University and  
Secretary, General Alumni Association*

## THE UNIVERSITY PRESS

*To the President of the University:*

SIR: The University Press can report steady progress during the biennium 1934-36. One large project brought to conclusion is the bulletin series of the Employment Stabilization Research Institute, amounting to four volumes of 1,296 quarto pages. A supplementary volume summing up the findings of the economic division of the institute was published in November, 1935, under the title *Balancing the Economic Controls*, by Russell A. Stevenson and Roland S. Vaile. The work of the division of individual diagnosis and training is reported in nontechnical language by Professor Donald G. Paterson and associates in a volume now in the press, *Men, Women, and Jobs: A Study in Human Engineering*.

To the series of Studies in Economics and Business there have been added two supplementary volumes on taxation—*History of Taxation in Minnesota*, by Gladys C. Blakey, and *Fees and Other Non-Tax Revenues in Minnesota Local Units*, by Arthur M. Borak and Gladys C. Blakey. Other numbers are *Consumption and Merchandising under the NRA*, by Roland S. Vaile; *The Economic Effects of the NRA: A Regional Analysis*, by George Filipetti and Roland S. Vaile; *The Retail Distribution Structure of the Small City*, by Ralph Cassady, Jr., and Harry J. Ostlund.

The popular, inexpensive Day and Hour Series has seemed to fill a need as the pamphlets have been bought in quantities for use by classes, clubs, and business organizations. The numbers added since the last report are *Where the League of Nations Stands Today*, by Quincy Wright; *Monetary Policies*, by Fred I. Kent; *Federal Expenditures in Minnesota*, by Francis M. Boddy; *Income Distribution under Capitalism*, by Harold G. Moulton; *Prospects for Inflation*, a conference held at the University of Minnesota, including the talks of James Harvey Rogers, C. O. Hardy, Melchior Palyi, Alvin H. Hansen, and Arthur W. Marget; *Old Age Security*, by Emerson P. Schmidt.

Economic subjects continued to predominate in our list through 1934-35 with interest gradually shifting to politics, history, and science. In the fall of 1934 we published *The British Way to Recovery: Plans and Policies in Great Britain, Australia, and Canada*, by Professor Herbert Heaton, which received international recognition. The Carnegie Endowment for International Peace purchased copies for all of its international relations clubs. Almost simultaneously we published the report of the Commission of Inquiry into National Policy in International Economic Relations, appointed by the Social Science Research Council. About five thousand copies of the complete report entitled *International Economic Relations* were distributed in this country and abroad, and about twenty thousand reprints of the *Recommendations* of the commission were distributed.

Of local interest was the history of transportation on the upper Mississippi by Mildred L. Hartsough, entitled *From Canoe to Steel Barge on the Upper Mississippi*. This was published in a limited edition for the Upper Mississippi Waterway Association and went out of print within a few months.

Another significant regional economic study is *A Program for Land Use in Northern Minnesota: A Type Study of Land Utilization*, by Oscar B. Jesness, R. I. Nowell, and associates. When we add to those mentioned above Professor William Anderson's comprehensive study of *Local Government and Finance in Minnesota*, we have in the publications of the University of Minnesota Press a

body of scientific information on the economic and political life of the state which is perhaps unrivalled.

In the field of political science, we published a number of volumes less regional in their subject-matter. *The Legal Status of Church-State Relationships in the United States, with Special Reference to Public Schools*, by Alvin W. Johnson, was made an adoption of the Freethought Book Club. *The Effect of an Unconstitutional Statute*, by Oliver P. Field, proved to be extremely timely. This was true also of *Government Control of the Economic Order*, a group of papers, already out of print, presented at a round-table meeting of the American Political Science Association, and edited by Benjamin E. Lippincott. *Dictatorship in the Modern World*, edited by Dean Guy Stanton Ford, grew out of a meeting of the American Historical Association, presided over by him. Contributors are Max Lerner, editor of the *Nation*, Ralph Haswell Lutz of Stanford University, J. Fred Rippey of the University of Chicago, Henry R. Spencer of Ohio State University, Harold C. Deutsch of the University of Minnesota, Hans Kohn of Smith College, and Denis W. Brogan of Oxford University.

A second volume published under the auspices of the Social Science Research Council is *Propaganda and Promotional Activities: An Annotated Bibliography*, by Harold D. Lasswell, Ralph D. Casey, and Bruce L. Smith.

In the field of history we have published *John Lind of Minnesota*, by George M. Stephenson; *Guarding the Frontier: A Study of Frontier Defense, 1815-1825*, by Edgar Bruce Wesley, and *Sea Dogs of the Sixties*, studies of eight Civil War naval commanders, by President Jim Dan Hill of Superior, Wisconsin, State Teachers College.

Three substantial volumes have been added to the Minnesota Geological Survey Series: *The Architectural, Structural, and Monumental Stones of Minnesota*, by George A. Thiel and Carl E. Dutton; *The History of the Upper Mississippi River in Late Wisconsin and Postglacial Time*, by William S. Cooper; and *The Geology of the Minneapolis-St. Paul Metropolitan Area*, by George M. Schwartz.

To the publications of the Astronomical Observatory have been added three numbers by Willem J. Luyten: *Investigations of Binary Stars, Apsidal Motion in Binary Stars*, and *A List of Proper Motions Exceeding 0".50 Annually in the Cape Astrographic Zone*.

*The Growth of the Surface Area of the Human Body*, by Dr. Edith Boyd, was added to the Institute of Child Welfare Monograph Series, as was also *The Measurement of Urban Home Environment*, by Alice M. Leahy.

A new series was begun during the period, the Publications of the Owatonna Art Education Project. Two numbers have appeared: *Art, a Way of Life*, by Dean Melvin E. Haggerty, and *A City That Art Built*, by A. C. Krey.

Two important contributions to science not included in series publications came from the Department of Botany. *Algae and Their Life Relations*, by Josephine E. Tilden, presents in systematic form Professor Tilden's life-work in this field. *J. Arthur Harris: Botanist and Biometrician*, edited by C. O. Rosendahl, Ross A. Gortner, and George A. Burr, and made up of both formal and informal papers by the late Dr. Harris and his colleagues, gives an unusually interesting picture of a great scientist and a remarkably versatile man, and gives permanent form to many of his unpublished papers.

After the first edition of Dr. Roberts' *The Birds of Minnesota* was exhausted we reprinted the color plates and published them in various forms both with and without text. They have been very popular and the proceeds from their sale

and that of the first edition of *The Birds of Minnesota* have enabled us to prepare a second edition of the two-volume work.

In the field of education, in the technical sense, we have had fewer titles than usual. Dean John B. Johnston's *Education for Democracy* has been widely and favorably reviewed. *Aspects of Land Grant College Education, with Special Reference to the University of Minnesota*, by Palmer O. Johnson, is, as its title suggests, a study having special application to the problems of this University. Two pamphlets conclude the list: *Proposed: A University of the United States*, by Edgar B. Wesley, and *Problems of the Master's Degree*, the report of the Committee on the Master's Degree presented to the Association of American Universities.

To our list of tests and scales have been added *The Minnesota Scale for the Survey of Opinion*, by E. A. Rundquist and R. F. Sletto; *The Social Status Scale*, 1933, revised 1936, by F. Stuart Chapin, and the *Minnesota Home Status Index: A Scale for Measuring Urban Home Environment*, by Alice M. Leahy.

Our low point in sales volume during the depression was the fiscal year, 1933-34, when schools and libraries, which are our chief customers, suffered their severest budget cuts. The year 1935-36 shows a more than 30 per cent increase in sales over the preceding period. The growth of the press is reflected also in the fact that in the year 1935-36 less than 30 per cent of our sales were within the state of Minnesota. The press followed a conservative policy during the depression, printing small editions, which rapidly went out of print. The result is that we are now issuing new and revised editions of a considerable number of titles, especially those used as texts, and are increasing the size of our first printings.

For the past four years, the University Press has co-operated with other university presses in joint exhibits at most of the national conventions of scholars and educators. In addition, the press during the past two years has held fifty-four exhibits of its own books. We expect to co-operate in the fall with other university presses in a joint exhibit at the Book Fair, sponsored by the *New York Times*, to be held in November at Radio City. During the past year also, our books have been sold to the "trade" by a New York firm of salesmen and also by the salesmen of a number of jobbers.

In the spring quarter of 1935 the Student Library Contest for undergraduates was conducted to encourage intelligent selection and ownership of books by students. The four students submitting the best personal libraries were awarded prizes of books, which were donated, one half by booksellers of the Twin Cities and one half by the University Press. In the summer of 1936 the University Press with the co-operation of the Ampersand Club brought to the University the Graphic Arts Exhibit of the fifty best books of 1935. These books were on display in the main corridor of the University Library through most of the two terms of the Summer Session.

Respectfully submitted,

MARGARET S. HARDING, *Managing Editor*

## THE MINNESOTA UNION

*To the President of the University:*

SIR: I submit the report of the Minnesota Union for the years 1934-35 and 1935-36.

*Board members.*—Students (1934-35)—Fred Baker, Stanley Bloom, William Brussel, John Buckbee, Robert Dixon, Frank Graham, Robert Hill, Edward Leach, John McGarraugh, Kenneth Severn, James Warren, Elmer Ziegenhagen, William Zieske. (1935-36)—Sheldon Beise, John Boraas, Gene Cutts, Donald Dailey, Robert Dixon, Elmer Foster, Herman Gordon, Jack Harms, Edward Leach, Kenneth Severn, William Tillisch, James Warren. Faculty (1934-35 and 1935-36)—E. B. Pierce, J. C. Sanderson. Alumni (1934-35 and 1935-36)—Stanley S. Gillam.

Following is the report submitted by Mr. G. Ray Higgins, the manager:

*General survey.*—During the past biennium the Minnesota Union has had a student patronage surpassing that of any similar period in its history. An increase of 20 per cent in the daily student traffic over the previous two years has taxed the facilities far beyond their maximum capacity. Indeed, there is every indication that hundreds of students who might use the Union fail to do so due to the overcrowded conditions.

The increased enrolment accounts in part for the results obtained. However, the improved facilities, the expanded social program, the increased efficiency, and additional services of the Union have played no small part in this achievement.

*Building improvement.*—Since 1932 no major alterations have been made in the Union. Minor repairs and replacements have continued in an attempt to provide a more livable Union. The ballroom and cafeteria have been redecorated; new soda fountain and billiard equipment has been purchased; new carpeting has been laid in the main lounge; and a new service elevator has been installed. The approximate total expenditure was \$17,000. Most of the equipment may be transferred to a new building, and this criterion will guide the future improvements contemplated for the present building.

*Union social program.*—The Union has made its greatest advancement during the past years in the field of social planning. The report of the University Co-ordinating Committee, appointed by the president to study the student participation in the university social life, inspired the Union Board of Governors to embark upon an era of active social planning. Its objective was primarily to devise social functions appealing to the mass of undersocialized students which that committee had commented upon. In this and in many other ways the board benefited from its contacts with the University Social Co-ordinating Committee.

The following figures indicate the growth of the Union's social program:

STUDENT PARTICIPATION IN UNION SPONSORED SOCIAL AND RECREATIONAL EVENTS

	1932-33	1933-34	1934-35	1935-36
Dances .....	1,580	2,800	10,832	22,345
Non-dancing, mixed parties .....	0	0	0	1,500
Stags .....	1,200	1,300	900	1,400
Banquets .....	200	420	850	1,100
Concerts .....	400	550	1,100	2,500
Exhibitions and lectures .....	400	265	1,200	4,600
Tournaments .....	110	160	200	520
Totals .....	3,890	5,495	15,082	33,965

*New services of the Union.*—Several additional services have been provided by the Union during the past two years.

The campus-wide problem of how to care for the commuting student who carries his own lunch has been somewhat alleviated by the development of the Paul Bunyan Room. The east attic wing of the Union was redecorated and furnished with dining equipment for 75 people. An attendant stimulated interest in utilization of the room by providing recreational pastimes during the lunch hours. For a small sum the diners may supplement their meal with beverages. Plans for doubling the seating capacity are now under way. Approximately 200 students use these new facilities daily.

The cafeteria management has recently supplemented its cafeteria and banquet service with a colonial tearoom dining service in the Early American Room of the Union.

The travel problems of the out-of-town student may now be referred to the representatives of railroads, buses, and airlines in an office devoted to that purpose for a period of ten days prior to the termination of a school term.

To assist the social chairmen of student organizations, the Union has compiled a complete file of orchestras available for campus social functions. One hundred fifty individuals referred to this file during its initial year.

The Students Forum and the Interfraternity Relations Committee have been provided with permanent office space on the fourth floor of the Union.

*Agricultural Union branch.*—In a period of four years the student traffic in the Agricultural Union increased over 200 per cent. In December, 1935, the administration found it possible to turn over additional space to Union activities. With the expenditure of approximately \$3,000 the Agricultural Union Board relocated, redecorated, and refurnished the entire space.

*New Union building.*—The need for a new co-educational social building has been apparent for several years. However, it has not been until recently that the project has met with general interest. The Union Board has endeavored to foster this interest in the hope that in the near future a new building will be erected upon this campus which will serve as an inspirational center for the social and cultural life of the students of the University. The cost will not be small, but there can be no doubt that the resulting improvement in faculty and student morale will justify fully the investment.

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 for the period 1934-36 is submitted:

Military training offered by the University is conducted in accordance with the laws and regulations governing the Reserve Officers' Training Corps (R.O.T.C.). During the past two years it has undergone a thoro revision as to scope of courses and method of presentation, and has been completely changed from a required course of instruction to a voluntary elective system in which the student has complete freedom of choice during the first two years, or Basic Course. The Advanced Course, always voluntary, is governed by contract between the United States and the student, inasmuch as it involves pay and increased allowances for those undergoing advanced instruction.

It must be recalled that the Board of Regents on June 18, 1934, by a vote of six to five, decided to make military training in the first two years' basic work elective, instead of required as heretofore, in accordance with the Land-Grant College Act. This action was fully discussed in the preceding biennial report.

*Units.*—Military training is now offered in Coast Artillery (Anti-Aircraft) and Signal Corps subjects only. Inasmuch as the latter is restricted to students registered in the Department of Electrical Engineering, the Coast Artillery (Anti-Aircraft) is the only unit open to all physically fit male students of the University.

The recommendation of the dean of medical sciences to request the re-establishment of the medical R.O.T.C. was unanimously approved by the Board of Regents June 2, 1936. Application submitted to the War Department resulted in the restoration of this unit in the fall of 1936.

*Credits.*—The acceptance of credits for military training by the colleges of the University for Basic and Advanced Course work has been adjusted to the mutual satisfaction of the University and the War Department. Following this agreement, the Commanding General, Seventh Corps Area, on November 9, 1935, announced the retention of the two R.O.T.C. units (Coast Artillery and Signal Corps) on a permanent basis, and removed the provisos which had existed prior to that time.

At present the credit acceptances by all colleges, applicable towards graduation and degree work are as follows:

*Basic Course.*—One credit per quarter, total six credits.

*Advanced Course.*—Three credits per quarter, total eighteen credits.

This revision of the scale of credits now places the courses in Military Science and Tactics on a par with like courses taught in other departments of the University. The present courses taught in Artillery and Signal Communications include specialized technical engineering subjects, comparable to any other of like character in the University, and requiring the same preparation and application on the part of the student. The student now receives credit for this work based upon the conventional credit hour, as defined in the *Laws and Regulations of the University of Minnesota*. Especially since the World War has military science become more and more scientific and complex, with decreasing emphasis upon the manual operations of drill. The term "drill," familiarly applied to military training at the University has already become a misnomer.

*Enrolment.*—The principal effect upon the student body of the abolition of required military training is reflected in the reduced enrolment in the Department

of Military Science and Tactics. As the requirement existed only in the Basic Course, considerations must be limited to that course which comprises the first two years. This decrease is even more apparent when the average enrolments of the last two years of elective training are compared with those of the school year 1933-34, the last year of required military training:

	1933-34	1934-35	1935-36
First year Basic Course (freshmen) .....	1,244	155	306
Second year Basic Course (sophomores) .....	941	103	178

It is yet too early to draw any definite conclusions from enrolment figures. The real criterion is freshman enrolment. Not until the class of 1938 completes the Advanced Course will it be possible to have a true gauge of the success of the elective system, from the standpoint of numbers enrolled. Freshman enrolment in the R.O.T.C., once as high as 98 per cent, dropped from 84 per cent in 1933-34 (required) to 8 per cent in 1934-35 (elective), and then rose to 13.5 per cent in 1935-36.

The University fails to meet its quota of trained reserve officers by approximately 60 per cent. The average number of graduates commissioned yearly during the last four years of required military training was 141. During the year 1935-36 it was 57. The year 1934-35 was the transition year which included students in the abolished infantry, medical, and dental units who were given opportunity to complete contracts previously signed with the United States, and is not typical. Of the 115 commissioned in 1935, 54 were graduates of the discontinued infantry unit.

*Armory.*—The present Armory constructed in 1896 at a cost of \$75,000 was adequate to meet the needs of the University, which, at that time, numbered only 2,467 students of both sexes. By 1909 when the aggregate enrolment had doubled to 5,066, its facilities were reported inadequate for military training, which then consisted for the most part of drilling. With the present combined enrolment of nearly 14,000, of which over 8,000 are males, it is apparent that the capacity of this edifice has been overtaxed for a long time.

Since the World War the increased demand for classroom instruction, lectures, and practical laboratory work with equipment has rendered the present Armory inadequate for the proper instruction of a cadet corps in excess of one thousand. During the last four years of the required system, the R.O.T.C. student body varied between 2,300 and 3,300 cadets; too many for the small faculty and limited facilities. No doubt the inconveniences of overcrowding were contributing factors to the desire for a change to the elective system sponsored by a large part of the student body.

Before seeking the return of required military training, provision should be made first for a larger and more modern structure to house properly the additional units which such an increase would necessitate. Public Works Administration, Project No. 20, University of Minnesota, upon which no action has yet been taken, provides for a modern building of proper design and sufficient capacity to meet the needs of the present University.

The additional space made available in the Armory by the removal of the Athletic Department to its new building was divided among the Department of Aeronautical Engineering, the University High School, and the Department of Military Science and Tactics. As a result, after certain necessary alterations, the military supply room has been enlarged and designed to provide adequate storage facilities, the indoor rifle range has been completely rebuilt into one of the finest of its type in the United States, and by the removal of the offices of the Military

Department to those vacated by the Athletic Department, this space was converted into a much needed classroom.

*Property.*—The value of government property furnished by the United States for the instruction of the R.O.T.C. at the University at present amounts to \$61,957.72. The condition of all government property was declared satisfactory by inspectors on their annual visits, and all equipment rendered surplus by the discontinuance of the infantry unit was shipped elsewhere in accordance with War Department instructions.

*Faculty.*—The faculty was reduced from 14 officers and 7 noncommissioned officers to 4 officers and 4 noncommissioned officers. Present enrolment entitles the department to one additional coast artillery officer, which the War Department is unable to furnish due to the present shortage of commissioned officers.

*Rifle Team.*—The performance of the Rifle Team during the past two years has been outstanding. In addition to placing two of its members on the All-American Rifle Team, it furnished the individual national intercollegiate rifle champion of the United States for 1936—Robert K. Sandager, Arts '37. The Regional Rifle Meet was held at the University of Minnesota for the first time in April, 1936. Participating were teams from the Universities of Minnesota, Wisconsin, Iowa, Illinois, and North Dakota. At this meet officials of the National Rifle Association pronounced the new indoor rifle range in the Armory the best in the United States.

*Student activities.*—Student morale in the R.O.T.C. is high. The generous and willing co-operation rendered by the cadet leaders in an effort to adapt the present military units to the new order of elective training is most commendable and shows their determination to succeed, whatever system may be adopted. Student government is exercised within the cadet regiment through the Cadet Council and the Cadet Court of Honor. The latter is charged with enforcement of the honor system. The determination shown by this court to punish all infractions of the honor system is convincing proof of the sincerity of the cadet corps to maintain the traditionally high standards expected of it.

*Alumni.*—Many of the R.O.T.C. alumni are now on active duty in the military service. In addition to a large number assigned to duty with the Civilian Conservation Corps, ten recent graduates were commissioned in the Regular Army for one year under the provisions of the Thomason Act, and one was commissioned in the United States Marine Corps.

*Rating.*—All units received a rating of "excellent" at the annual inspections by representatives of the War Department, to which were added letters of commendation from the Corps Area Commander for the outstanding performance of the rifle and drill teams for honors won in competition with like teams from other colleges and universities.

Respectfully submitted,

A. E. POTTS, *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 1934-35 is published as Volume XXXVIII, No. 55, and for 1935-36 as Volume XXXIX, No. 62, of the University of Minnesota Bulletin Series.

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