

The Biennial Report of the President
of the University of Minnesota
to the Board of Regents

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A Word About This Report

IT is customary, formal procedure for every state institution to make a report of its activities and needs to the state government, and through it to the people of the state. True to this tradition, the president of the University of Minnesota issues a complete report every two years. That report is published in this volume. It includes chapters by each of the deans, and by the heads of other units.

Those who care about education, which, indeed, should mean everyone in such a country as the United States, will find this book no dull compilation of facts and statistics. On the contrary, they will find it packed with information on one of the most vital topics of the day, namely, the conduct of higher education, a function that is basic to the future prosperity and well-being not only of the state, but of the nation.

The report now issued has particular interest in that it reveals a surprising number of ways in which the university organization has been able to be of special use during the crisis of the past three years. "How can we serve better now that the need is greater?" seems to be the actuating thought behind many of the chapters.

The first section of this report is President Coffman's own discussion of higher education in Minnesota, particularly, of course, the activities and aims of the University of Minnesota. Following this section will be found the biennial reports of the heads of the several colleges that go to make up the state university. And in each of these are elucidated the thoughts of educational leaders with respect to the problems confronting their specialized fields.

This year an effort has been made to divide the report in such a way that anyone particularly interested in any one phase of the University's work may find that part of the report easily. A further effort has been made to make the volume easily readable in the typographical sense. Large sections of this book are worthy of the careful reading of those who desire a sounder, happier, and better Minnesota.

The President's Report

AMERICA is making or is about to make a momentous decision. It is the decision as to what place she shall occupy among the nations of the earth in the near future. Some think this decision calls for a great army and navy; others for high tariff walls; others for national isolation; others for the breakdown of capitalism, and so on throughout a long list of proposals. But if the history of American life and tradition teaches any lesson it is that the decision will be made in the kind of education she provides for training in citizenship and for economic growth and development.

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What obligation rests upon a university at such a time? In my opinion it has a double responsibility. One is to provide competent and adequate training in all those fields whose problems and issues are basic to the welfare of a democratic society; and the other is to utilize its scientific resources to the utmost to create better living conditions and to create new wealth. The University of Minnesota has made notable contributions along these lines during the last two years and it has plans under way that will contribute, if it is permitted to develop them, to the solution of certain major issues of national importance.

* * * * *

Let those who wish to be political and industrial leaders receive the support they deserve. As for me, I should prefer to be known in the years to come as one who stood in these days for strengthening rather than weakening education; as one who helped to modify and adjust it to meet the demands of new problems and to prepare for a new day; as one who has not discarded the great tradition of America that universal education is essential to public welfare and that a highly educated leadership is basic to human progress.

Lotus D. Coffman

President of the University

THE UNIVERSITY OF MINNESOTA—1930-32

To the Honorable Board of Regents,
University of Minnesota:

Gentlemen:

I SUBMIT herewith the report of the University of Minnesota for the biennium 1930-32. This report in general, and especially the reports of the various administrative officers incorporated herein, presents a striking contrast to the report of two years ago. That report was historical in character, covering a ten-year period; it showed the changes that have been made in the University during the decade. The most noticeable feature about the University of Minnesota during the ten years preceding the present biennium was the willingness on the part of the staff to experiment with university practices.

A Committee on Educational Research, composed of various members of the university staff, carried on studies of teaching techniques, admission requirements, administrative practices, and the progress of students. In fact no phase of the University's life was regarded as too sacred or traditional to protect it from the inquiries of this committee. A characteristic of American education is that when any phase of it becomes traditional we think there is something the matter with it. We begin to inquire into the causes of the tradition; we begin to test it, to check it, to look for better and different ways of accomplishing the same purpose. Education that is worth while will not stay put. It is not subject to fixed and unchanging laws. By this I do not mean to imply that it is subject to no laws, for there are many principles of administrative procedure and of learning itself that are well known and must be followed if satisfactory results are to be achieved. Just as learning should be subject to constant scrutiny, ready and willing to modify itself when new facts are revealed, so an educational institution in all of its departments and in every phase of its work should adjust itself to conform to whatever facts scientific analysis of its practices may reveal. That I believe has been a prominent, if not the most prominent, characteristic of the University of Minnesota in recent years.

One of the best investments the University can

make is in the study of itself. Whatever studies of itself the University may conduct should not be made primarily with a view to saving money, but chiefly with a view to providing better educational facilities and opportunities for the student body and the promotion of its research activities.

The report two years ago called especial attention to the importance of making the Twin Cities a cultural center for the Northwest. It also laid emphasis upon the advisability of the state providing a liberal endowment for the promotion of higher education. Neither of these things has, as yet, been done.

What was said two years ago with regard to both of these matters is even more important today than it was then. Those who are interested in the economic life of this region would do well to reflect upon the importance of building a cultural center of distinction with the University as its center here in the Twin Cities. And how vital a liberal endowment for higher education seems just now when demands for curtailment of public expenditure, including that for public education, are being made on every hand!

The Source of Our Wealth

The civilization we enjoy in the Northwest was built out of, and on, the riches of the Northwest. It came from the natural wealth that men found here, a wealth that has been explored and exploited and used. The forests are gone, the mines are disappearing, the top soil of the land has been depleted. There are no more rich natural sources for us to tap. If we expect to maintain and to advance civilization in this area it will be done through the researches that scientists promote, and the prosecution and the promotion of these researches will require large sums of money. The question, therefore, which we are constantly facing is a question of whether we are willing to have our civilization strengthened and placed on the road to greater achievements by mak-

ing the sacrifices necessary for these researches, or whether we shall leave it weakened and devitalized, due to our unwillingness to provide adequately for the support of education for leadership and research. It is the question whether or not we have accepted the trust of our fathers. We are at the fork of the road again, facing a great decision, not yet, I suspect, quite ready and willing to make it, but overwhelmed nevertheless with its stupendous importance and recognizing the ultimate necessity of making it.

The report which we are issuing this year, covering the last biennium, brings to a culmination the results of many of the studies conducted in the preceding decade. It shows what one university at least has been trying to do in the face of a desperate economic situation to minister to the wants and needs of the children of the people who established it. Clearly this is a time when frenzied and unreasoned appeals should be replaced by constructive programs looking to the future. No broken-down and patched up political and social and economic arrangement will provide a lasting remedy for our present ills. If we follow this path, the system will break again, bringing greater human ruin in its trail the next time than it brought this.

The schools, including colleges and universities, must share with all other forms of organized society in the responsibility of aiding in the solution of the problems with which we are confronted. It is common knowledge that the depression is creating difficult financial problems in many communities and in some states. In some instances deficits actually exist. Heroic measures are being taken by citizens in these communities to balance the budgets and to carry on the work of the government and the schools. Clearly the only immediate way to meet a deficit is to cut down on expenses or to increase taxes. A far better way than either of these is to improve domestic business and foreign commerce. At present little is being done in either of those directions. This leaves us in the financial morass where costs must be reduced or taxes increased. Reduction of costs is the safer and more intelligent way of proceeding. Despair is added to confusion when we attempt to meet deficits by piling up a larger deficit. There are, to be sure, two kinds of deficits: one financial and the other social; one is purely a matter of balance sheets, the other is a deficit in the life and opportunities of the people.

Statistics Not Enough

It is inherently wrong and fundamentally dishonest for any type of public institution to take disproportionate amounts of tax money--indeed, one

disqualifies himself as a public servant if he asks for more than his institution needs. Needs, however, and especially those of the University, cannot be defined in terms of mere statistics. Some imagination must be put into them; otherwise they will concern themselves with the commonplace things only. Most progress has been the result of the adventurous investment of tax and private surpluses.

The thing that we are particularly anxious about is that the humanitarian and educational institutions shall play the part that they are capable of in meeting the present crisis, and that they may not become the victims of an unreasoned movement for retrenchment. The recovery of the vigor of an institution is always slow and costly.

It is a wise and courageous people which dares to build a democracy in which the training of youth does not fluctuate up and down with every shift of the stock market. President Graham, of North Carolina, referring to this very matter recently, said: "Unwise and unnecessary curtailment of the humanitarian and educational institutions will leave empty shells to mock their former vigorous usefulness to the people."

The Need for a Program

Now is a favorable time for making a constructive and orderly and well-integrated educational program for the state. No state has really done this of its own initiative. The state administrations of North Carolina, Georgia, Mississippi, Kentucky, and California have recently employed outside groups to assist them in preparing such programs. Members of the staff of the University of Minnesota have assisted in three of these studies—North Carolina, Georgia, and California. If such reorganizations as can be made were made, they would not involve the employment of poorer teachers, restricted programs, shortened terms, inadequately equipped schools, reduced salaries, nor would they involve the elimination or weakening of scientific and social lines—all of which are basic to our economic life and to our intellectual and altruistic outlook.

It is a question whether the suffering that has come from the economic depression has not obscured our vision, has not blinded us to the real issues of life. The important question is—Shall we surrender to the depression our spiritual vision, our intellectual outlook, and our social hopes for the youth of our generation, or hold with grim resolve and firm determination for the better day which constructive planning will surely bring?

Education, of course, is not the only charge against public support and private beneficence.

There are those—many in fact—who maintain that charity is more essential than education. Surely, no one would be so stupid as to argue for education in the face of starvation—he would feed the hungry; or for education in the presence of a dying man's thirst—he would quench the man's thirst; or for education in the face of nakedness—he would clothe the naked. Fortunately Minnesota does not face these alternatives.

If we destroyed or even if we impaired the usefulness of our educational institutions there would immediately be a drying up of the sources of their strength and of the future wealth of the community. It is only through training of a high order and the stimulation of the creative imagination that a more balanced agriculture and more diversified and highly skilled industry, and more wealth of all kinds can be produced. Likewise, it is through the intelligent study of facts and conditions that the solution of unemployment and other social problems, and of our domestic and foreign difficulties, will come.

Must Finance Honestly

Two things seem perfectly clear and reasonable to me: The first is that every agency and institution of the state, deriving any or all of its funds from the state treasury, should join with the state in maintaining its credit, and in balancing its budget. And the second is that no state institution should spend a state's dollar that it would not spend in case the institution were the private property of the administration.

The converse of these two things also seems equally clear and reasonable. It is that a state, in balancing its budget and in maintaining its credit, should proceed in a constructive manner so as not to cripple those agencies that are essential to its growth and economic welfare. No state can expect a revival of its economic life and a renascence of the human spirit—no state can expect life and life more abundantly—from underfeeding the forces of growth and idealism.

No group in society has made greater sacrifices to prepare itself for such a life than members of the teaching profession. This is especially true of the professorial group. One does not become a professor before middle life. Men who chose the academic life as a career did so with no thought of fortune in mind. They knew they would be working at a financial loss when business conditions were good; they knew that there would be no relation of their salaries to rising markets. Never once in all their experience did they expect fortune would come to them because of an upward swing of the market. Even now in the pres-

ent crisis the facts show that their incomes coincide almost exactly with the curve of the cost of living. For twenty years they have been living on deflated incomes, struggling as best they could to advance learning and to promote scholarship. In so far as they were affected by economic motives they chose teaching for two reasons, namely, the tradition that men in professional positions have permanency of tenure, and the assurance of continuity of employment and income without regard to business cycles. A lower income than most of them would have earned in other professions or in business was cheerfully accepted because of security of tenure and salary. They were willing to devote themselves to the intellectual life and to social progress in the faith that these assurances would be kept. They took, so to speak, the vows of a self-denying profession for the benefit of youth and human progress.

Of course, the time may come and conditions may arise when the staffs of the higher institutions of learning will regard it as their patriotic duty to relinquish or to hold in abeyance their ideals. History has shown, however, that when such crises arise the university and college staffs respond to them. It has also shown that the social gain has always been accompanied by heavy corresponding losses. To bring the teaching staff of any level of education nearer to the level of subsistence means fewer books, fewer magazines, less science, less progress, a weakened professional interest, and it makes the profession itself less attractive.

On the other hand the financial security of the state must be assured. Debts must be paid and with interest. Budgets must be balanced. Needs that are not imperatively necessary must be postponed. Let us do these things, if possible, by building up, not by tearing down. It is in the course of great business depressions that we test our intelligence and inventory our convictions. During and immediately following each of the great economic depressions of 1837, 1873, 1907, and so on down to the present time, there was a great educational reawakening. It was at such times that the foresighted pioneers of this country gathered strength and prepared for a new day by improving their educational system.

Some Crises of the Past

A hasty review of what actually occurred during some of these periods is both illuminating and instructive. There are none living who remember the panic of 1837. History states that it was the most severe of them all. Six hundred banks failed, far more, proportionally, than have failed in the last year or two; states repudiated their bonds, some

declared moratoriums on private debts; employment almost ceased; the poorhouses were crowded to the walls; and food riots occurred in many places.

But the late thirties and the early forties witnessed a great educational awakening. Departments of education were established in many western and southern states; normal schools were provided in many places for the training of teachers; the first superintendent of schools and the first teacher of public school music were appointed during this period. Teachers institutes and educational conventions were held for the first time, and educational journals made their initial appearance. Horace Mann, in Massachusetts, was staking out new claims for public education in his immortal discussions with the Boston schoolmasters. Henry Barnard was the evangel of the New Education in Rhode Island and Connecticut. Calvin Stone prepared a document on education in Europe which the legislatures of Ohio, Massachusetts, Michigan, Pennsylvania, Virginia, and North Carolina printed and distributed by the tens of thousands to the people.

In the midst of distress and hardship the forces of growth could not be held in abeyance. Belief in the future and an unwavering faith in the importance and value of education were manifest everywhere. The schools were strengthened and America entered upon another period of development.

At the time of the crisis of 1873, and soon thereafter, school attendance increased approximately 12 per cent, appropriations 10 per cent, the school term was lengthened, compulsory education laws began to be enacted, and the high schools became a part of the public school system.

During and following the depression of 1893, which many of us remember, school attendance increased nearly 10 per cent, expenditures 20 per cent, and many new normal schools were established, the qualifications for teachers were raised, the expressive subjects of manual arts and home science took their place alongside the reflective subjects, and the free public library movement attained recognition.

In 1907 the school term was lengthened five days, both attendance and expenditures increased, great advances were made in the schools in the South, and the school system generally was improved everywhere.

Always Held Faith in Education

A similar story can be told for each of the depressions. And why, one may ask? The answer is simple and easy to understand. Men recognized, as they faced these crises, that society was becoming more complex; its problems more intricate and more

difficult of solution. They knew that an ignorant nation would be a slave nation and that an ignorant people would possess few of the blessings of life. They held that the social controls of a democracy resided in the processes of education. They understood that democracy is a process of continuous education and that once the process is broken in the midst of a world of increasing difficulties, democracy is endangered.

There were men in those days who spent their time tinkering with this and that, and to some effect. There were men who said that the only way to save the situation was to curtail expenses and this was done, sometimes wisely, sometimes unwisely. There were men in those days who struck quickly and effectively at the humanitarian and welfare institutions, crippling them in certain localities for a generation or more. But out of the welter of chaos and uncertainty and disappointment and unrest there emerged each time a stronger and more profound faith in the importance and value and necessity of American education.

Must Build for New Day

Now we are in the midst of another depression. The same forces, the same battle cries, the same demands are being made today that were made upon similar former occasions. America's faith in democracy is running the gauntlet again; it is receiving another and, perhaps, its most supreme test. If she listens to the voices of some, America will revert to the practices of earlier days, to simpler problems, and to lower standards of living. But life will not move backward. We shall not resign ourselves to defeat. On the contrary, we shall, I predict—indeed there is no other way for us—to do as our fathers did; that is, inventory the processes of education, modify and strengthen them, and build for a new day. The civilization we enjoy was made by education. The breakdown of our economic processes is due largely to failure to profit by the teachings of education. The only way the nation has—indeed the only way the race has—of making progress, is through education. We shall not discard the instruments of growth and hope. A nation that thinks in terms of tomorrow moves on; a nation that thinks in terms of yesterday, perishes.

The future state of the nation will be decided by looking for a rainbow of promise at the close of every storm. It will not be decided by seeking substitutes for brains nor by curtailing the training provided for the creative talents of youth. Every time talent and ability are forced into seclusion, demoralization begins. That nation that has courageous and for-

ward-looking leaders who dare, in the midst of the present world crisis, to provide, encourage, foster, and improve education, and especially education for leadership, will be the nation that will write the history of the next generation. The world of the future will belong to the men whose understanding is based upon knowledge. Ignorance, stupidity, selfishness, greed, and planlessness are the barriers that must be surmounted if understanding is to be effective.

America is making or is about to make a momentous decision. It is the decision as to what place she shall occupy among the nations of the earth in the near future. Some think this decision calls for a great army and navy; others for high tariff walls; others for national isolation; others for the breakdown of capitalism, and so on throughout a long list of proposals. But if the history of American life and tradition teaches any lesson it is that the decision will be made in terms of the kind of education she provides for training in citizenship and for economic growth and development.

England is making the same decision. Her distress has been greater than ours. It is reported by the press that England has not reduced her appropriations for higher education; on the contrary, she has increased them in a number of cases. She is holding fast and with grim determination to the thought that a competently trained intellectual leadership was never more necessary than now. She is paying the duty to intelligence that any nation must pay if it is not to be submerged by its own ignorance.

Few would venture the assertion that the problems of America are not as difficult as those of England and that those that lie ahead will not be of increasing importance to us. Shall we wait for time and circumstance and such temporary adjustments as we are able to make to point the way to their solution? Shall we sap the sources of intellectual strength when the struggle for existence is being intensified?

A University's Obligation

What obligation rests upon a university at such a time? In my opinion, it has a double responsibility. One is to provide competent and adequate training in all those fields whose problems and issues are basic to the welfare of a democratic society; and the other is to utilize its scientific resources to the utmost to create better living conditions and to create new wealth. The University of Minnesota has made notable contributions along these lines during the last two years and it has plans under way that will contribute, if it is permitted to develop them, to the

solution of certain major issues of national importance. Devoted servants of education here and elsewhere, with no thought of self-interest, know best how to accomplish these ends; and a wise society will aid them at every turn.

Everyone, I suppose, sometime in his life wishes that he were someone else. He tells the world what he would do if he were governor of the state, the president of the United States, a member of Congress, or a captain of business or banking. He pictures himself as achieving immortality by being something that he is not and performing something that he probably is not capable of doing. I must confess that I have had such dreams myself. Just now I should like to be the man who could relieve suffering and distress, provide employment for everyone, and bring prosperity and peace to an aching world. To these ends I shall give whatever of wisdom and strength I possess. But I do not expect that these ends will be achieved suddenly or by the exercise of autocratic power. They will come, I think, through a better trained and better educated world.

A Statement of Faith

Let those who wish to be political and industrial leaders receive the support they deserve. As for me, I should prefer to be known in the years to come as one who stood in these days for strengthening rather than weakening education, as one who helped to modify and adjust it to meet the needs and demands of new problems and to prepare for a new day, as one who has not discarded the great tradition of America that universal education is essential to public welfare and that a highly educated leadership is basic to human progress. Although I may belong to the University at present, I prefer that my voice shall be lifted in unison with those of the men who possessed the pioneering spirit in America and who dared to believe, in the midst of other great crises, that all hope was not lost and that the way out was to be found in a new baptism of faith, a renewal of the sources of strength. It would be an irreparable misfortune if we sacrificed both democracy and our children in the name of economy. I believe in nation building that looks for things not yet seen, for accomplishments not yet achieved, for victories not yet won, for aspirations not yet expressed.

Turn Again to Democracy

It is of the highest importance, therefore, that the American people reassert their faith at this time in these fundamental matters. In curtailing our budgets we must not lose our democracy. During

the last four years I have had the opportunity of seeing three of the great world philosophies at work—communism in Russia, militarism in Japan, and democracy in America. In both Russia and Japan the social controls are those of force, coercion, espionage, exile, and execution. In America we have maintained from colonial times that social controls are based upon education and understanding.

Fascism, communism, militarism, and democracy—these are the philosophies that are engaged in a gigantic struggle for world supremacy, and they are all present in some form in America. If crime and all of its agencies continue to flourish and expand, then America must accept the controls of militarism for the protection of her people. If the youth of this generation are to be denied the privilege of employment, the right to establish and maintain homes because of restricted incomes, then America faces the dangerous consequences of communism. If our government on its various levels becomes corrupt, inept, and weak, then America faces a dictatorship with fascism in some of its forms. But if America is to remain America, she will not yield to any of these foreign philosophies; she will avoid and evade them by strengthening and improving the forces of education.

We have 120-odd million people clamoring for relief and light, not yet willing to use the knowledge available to save them from distress and in some instances from destruction. The dominating motive of American life is still an industrial and commercial motive. In saying this I have no desire or wish to disparage the desire that inheres in everyone to accumulate property. On the other hand it must be admitted that every tendency to emphasize the material aspects of life at the expense or neglect of the humanitarian, educational, and altruistic aspects of life is dangerous.

Knowledge, the Basic Need

There was never a time in the history of America when knowledge—more knowledge, tolerance—more tolerance, co-operation—more co-operation, based upon mutual understanding, were more needed than now. The schools of America have in no sense been responsible for the economic depression and the various unfortunate consequences that have followed in its wake. The schools of America have never taught war, they have taught peace; they have never taught intolerance, they have taught tolerance; they have never emphasized hate, they have emphasized good will and mutual understanding; they have never taught extravagance, they have taught the lessons of thrift. It is because the materialistic ambitions of

the American people have literally run wild, because they have disregarded the teachings of the schools, that we, along with all the other nations of the earth, are in the midst of the greatest period of distress that humanity has ever experienced. Nations lacking in generous aspirations and a high regard for vigorous and trained intelligence at such times will remain inconspicuous in the history of civilization.

I do not think that the staunchest advocate of the American school system or of the higher educational institutions of this country could maintain for a moment the position that the schools and colleges are perfect. They are human institutions, having the strengths and weaknesses that other institutions possess. They are subject to all sorts of pressures and are responsive to all sorts of demands. They are essentially conservative, following too often in the wake of progress, too seldom exhibiting the leadership that we would like to ascribe to them. If they are to be as effective as possible they must be constantly modified in the light of shifting conditions. The weaknesses of our educational institutions are revealed by what happens to the social order. Just now we are especially conscious of the fact that the graduates of the public schools and of many of our colleges and universities are helpless in governmental matters. They know little—precious little—about the structure of government and they are not always animated by an impelling urge to uphold, support, and advance the interests and the welfare of government. Their attitude is a *laissez faire* attitude, or even one of complete indifference toward the integrity and dignity of government.

One needs only to refer to many of the campaign speeches which candidates for public office make. Statesmanship all too seldom rises above the demands of some locality, and campaign oratory all too frequently is based upon a demagogic appeal. Not yet are we willing to take the facts and to use the intelligence available in the solution of our problems. There is no class—not even that class which is benefited by college education—that dares to sound a clarion note and to stand solidly for public welfare.

Neither education nor public opinion has endowed any class as yet with a knowledge of the importance of upholding the dynamic forcefulness of government. That accounts partly for the waste, greed, selfishness, lack of vision, poverty of programs, and general impotency we face in governmental matters.

Weaknesses in Education

Then again it can hardly be maintained that the colleges of America have taught their students much

about the principles of economics and finance. Either they have not known the principles themselves or they have for some unknown reason failed to teach them. The result is that the college graduates, along with those who are less informed, have been the victims of unscrupulous economic exploitation.

Another deficiency in the collegiate program is that there has been no well-ordered plan of instruction in international relationships. Never were we more provincial than now and never was there greater need of establishing friendly relations with foreign nations. Our students go from us with little or no knowledge of tariffs, exchange, foreign politics, treaties, or commerce. These are the men we elect to office—sometimes to high office—to enact laws and to administer government. Poorly informed, sometimes wholly untaught in these matters, they form unsound judgments and exercise a dangerous leadership. From this class come the demagogues who wield a pernicious power because the masses are less well informed than they.

Then again, the colleges of America have so differentiated their offerings that it has been practically impossible for a student to receive a liberal education in any field. This differentiation of subject-matter in college circles is the counterpart of the division of labor and the specialization of life in the world outside. Fortunately there is a wide-spread reaction against this tendency in college circles. Courses are now being introduced with a view to providing students with that synthesis and general overview of the fields of learning that is essential to the training of liberal and cosmopolitan minds.

The Student Improves

Two things are happening in college circles which give one considerable encouragement. One is the tendency on the part of students to remain in college more faithfully and for longer periods than ever before. It is true that this tendency is in part due to the intensification of the struggle for existence. We are not so much interested in the fact that these students remain in college longer as we are in the fact that they are more seriously minded than ever before. They are more concerned about scholarship than they have been at any time since the war. Lectures, whether they be on religion, art, education, finance, or science, were never so well attended as now. These things attest more than a lingering faith in education; they are youth's unspoken search for understanding and wisdom. They know that education prepared and equipped a generation for the building of the greatest industrial society and commercial civilization the world has ever witnessed.

They believe that education can build another civilization, one that will be more secure and better in every way than the present, and that they will be the builders.

The other characteristic of the modern college student that gives one hope is his unwillingness to accept any man's *ipse dixit*. Students want to know what the facts are in every case. They have a critical type of mind. They are seeking for light and understanding with regard to the present situation. They are analyzing all of the forces and circumstances that opportunity places in their way. The pontifical statements of the professors of a generation ago would be laughed to scorn by the students of today.

How To Stabilize the Universities

The stabilization of the programs of state universities during the present crisis is of the highest importance. If their incomes and programs are to fluctuate up and down with every political wind that blows then both public welfare and the economic life of the commonwealths they are maintained to serve will suffer. Reference has already been made to the fact that England has been protecting and supporting her universities in the present crisis as no other nation has done. Not one single dollar of state funds has been withdrawn by the English Parliament or English treasury from the support of her universities. England with her vast experience, her knowledge of human nature, her recognition of the need and importance of a highly adequate leadership, has set herself in these days of distress the task of providing the best possible conditions for the training of such leaders. History records the fact that whenever nations diminish their interest in, and the support of, their universities, they soon become second-rate nations. There may be other factors, to be sure, which are responsible for their decline. Both Spain and Portugal are nations that once enjoyed positions of world leadership—nations whose universities once flourished. They now are no longer numbered among the world powers. But little nations like Denmark and Holland and Switzerland, possessing a profound respect for their universities, depending upon intelligence rather than arms for their strength, are nations that are playing an increasingly conspicuous part in international councils. Furthermore, the English people with their customary forehandedness and foresightedness clearly see that a nation that cripples its intellectual life at the top is a nation that will produce increasing despair and poverty at the bottom. The surest guarantee of the development of the economic life of a nation, of increasing its wealth, of disposing of its problems ultimately

in a sane and satisfactory way, is the maintenance of its universities.

What the American state universities need now is assurance as definite as it is humanly possible to give, that they will have certain incomes from the states during the next five or ten years and that this income will remain undiminished during this period of time. Then they can move forward with their researches and the study of those problems which pertain to the welfare of their respective states, with assurance. But if they must remain in a state of uncertainty with regard to the matter of support then many of the things that need to be done will not be done.

Nowhere in America, so far as I have discovered, is there any militant leadership for this type of thing—that is, for adequate support of these state institutions. On the contrary universities are being criticized as profligate and extravagant institutions. There is an assumption, deliberately developed, that university men are not in favor of tax reduction. Not uncommonly they are referred to as tax spenders and in a manner that is not intended to reflect credit upon them. Every university man is a taxpayer and as much interested in this problem as other taxpayers. Furthermore the amount of the taxes voted and collected, the wealth of the state, the income of the state, the whole economic fabric of the state are matters of gravest and deepest concern to the university.

This is a time—the most fortunate time—in the life of the present generation for some state to build the most distinguished state university of America. This can be accomplished only by going into the open market and paying whatever needs to be paid to bring to its staff leading minds in the various fields of human learning. The returns to the state that will do this will be returns in wealth, in happiness, and in leadership. The consideration and disposition of all those problems that affect human life will far more than compensate for any sacrifices which may be incurred at the present time in building such an institution.

The pioneers of this state found here a rich country—rich in forests, rich in soils, rich in streams, rich in ore—all these things have been consumed and exploited. We can no longer depend upon these natural resources for the production of wealth; now it must be produced in other ways. The only sure way is by using the techniques of science.

There are those who think that it is sheer heresy for a university man to present such arguments as these. In my opinion the man who fails to present these arguments is not only rendering a rank disservice to the immediate situation but is playing

traitor to the next generation. If America wishes to skip a generation in her intellectual leadership she has only to do what I saw Russia do four years ago. Russia deprived her professors, who were really the great scholars of Europe, of everything they needed. She exiled some of them; she reduced her support to the universities to a mere bagatelle; she practically took away all the income from the members of the staff. She made teaching unattractive, research impossible, with the result that the fellowships and scholarships of the universities that should have been filled by the most talented young men were filled by the stupid and ignorant.

Champion of Education Needed

How unfortunate it is that there is no man in America today who is raising his voice, who is carrying on a courageous and active campaign with a view to influencing public opinion with respect to the necessity of retaining the universities with undiminished strength. To be sure, as I have already stated in another part of this report, the university should not spend more than it reasonably can in the interest of public welfare, nor should it ask for more than an adequate program for the education of such leaders properly demands. A university should be regarded as the most important agency within the state in solving the problems of the state. The strength of a university is never determined by the extent of the public relations that it has. It is determined by the strength of its staff and the competency of its instruction, the quality of its research, the distinction of its leadership in the various fields of human thought.

How unfortunate it is that the public press does not take a more active position upon this matter. To be sure the attitude of the press with regard to this problem is not destructive. It is, to a large extent, non-committal or neutral. Now and then one reads in the press a statement which makes him believe that some newspapers get positive enjoyment out of every curtailment of educational activity. Of course this is not representative. The press as a whole is too sound for that. But the press could, if it agreed with the point of view that has been presented here, be a far more effective force than it appears to be in dealing with the progress of education.

I appreciate the fact that there are those who will say that because of my connection with the University of Minnesota and more than forty years in the field of education, my views are more or less colored by this experience. Perhaps so. Colored, I firmly believe, with no personal interest in mind; colored, I hope, in the interest of the public good.

Special University Activities

Registration

THE registration of the University of Minnesota increased in both years of the biennium. We are one of the few state universities that had an increase in registration; as a matter of fact, most of them experienced a decline. And yet there are two significant things about the registration of the University of Minnesota that deserve careful consideration and attention. One is that there has been a steady decline during the last two or three years in the undergraduate levels in the first two years. We had fewer freshmen last year than we had the year before, and fewer freshmen than we had the year before that. The increase of the university registration has been due to older students returning in the upper classes, and to an increase in the Graduate School. There is an impression that the increase in registration is due to the fact that the University of Minnesota is located in a great urban center and that the children residing in this center take especial advantage of it. The fact of the matter is that there has been a decline in the number of students coming to the University from the Twin Cities, a decline in the number coming from the ten larger cities in the state, and an increase in the number coming from the smaller communities in the state. Furthermore there is the impression that the increase in the upper years is due to the fact that many parents are unable to send their children away to the eastern schools and to foreign countries. This is a factor that had some bearing on the growth and registration during the last few years but it is a factor of minor importance. The truth about the matter is that the increase has been due more to the intensification of the struggle for human existence and to the growing reputation of the University of Minnesota as an institution of first rank and magnitude.

Trip to New Zealand and Australia

The regents graciously granted me permission to accept an invitation from the Carnegie Corporation of New York to visit the educational institutions of New Zealand and Australia, and to deliver a series of lectures at the University of the Philippines at Manila. The trip to New Zealand and Australia was occasioned by the fact that Mr. Andrew Carnegie left \$10,000,000, the income of which must be spent on education in British possessions. The fact that I was able to visit New Zealand and Australia as a representative of the Carnegie Corporation meant that I went under especially favorable and auspicious circumstances. It gave me an unusual opportunity to examine the educational institutions of those countries. The report of more than 125 pages which I made to the Carnegie Corporation, contrasting education of those countries with that of America, was, I hope, as

helpful to the Corporation as it was beneficial to me. On the trip around the Pacific I had the privilege of visiting fourteen universities: four in New Zealand, four in Australia, one in the Philippines, one in China, and three in Japan. I think it is fair to say that the information which I gathered as to the purposes, standards, forms of organization, and general administrative procedure of these universities, represents an invaluable asset to me in the work in which I am engaged here at the University of Minnesota.

I am under grateful obligations to Dean Guy Stanton Ford for his willingness to serve as acting-president and for the distinguished administration of my office during my absence.

University Economies

The University has been compelled to exercise rigid economy in its administration for many years. The revenues of the University which the state provides have remained practically stationary for more than ten years, while the registration has steadily increased. In view of this situation it has been necessary for the University to introduce every sort of constructive measure in order to maintain itself without impairing its educational efforts. Had the University not received large gifts of money from outside sources for the promotion of work which the state was not sustaining, it would not have been possible for it to continue among the first rank of American universities.

Recognizing the great difficulty which the legislature has in meeting the tax necessities of the state, the university administration for more than a year ago began a new study of its expenses with a view to finding further economies, if possible. The regents of the University at their April 21, 1932 meeting adopted a plan which was accepted loyally by the deans and the members of the staff. The following statement sets forth this plan:

The University of Minnesota is intimately bound up with the best interests and permanent welfare of the state. Its policies are shaped by this basic purpose. Its program is conditioned by the multiplied services the people demand and their ability to support the consequent expenditures. Any temporary lessening of the ability of our people to pay should be taken into account in the immediate program and budget of the University.

At present the state shares with the rest of the nation as the nation shares with the rest of the world in diminished economic activity and income. The situation in Minnesota is serious enough in certain groups and areas to require of any public agency every wise economy that does not impair the purposes for which the people instituted it. The University is such an agency and it proposes to continue and wherever possible to intensify its efforts to make savings.

Further economies may be difficult for with an increase in student body of over 60 per cent in the last ten

years and an increase of only 9 per cent in appropriations, there is not a great leeway for trimming. Nevertheless, the Board of Regents volunteers to make the effort.

During the current year needed repairs, improvements, and additions to its buildings and grounds are being postponed, positions becoming vacant are, as far as possible, being left unfilled, equipment purchases are being limited to the most essential replacements, and staff adjustments are being made only where competition and previous agreement compel them. Many administrative readjustments, involving courses of study, teaching loads, and class size, have been made and others, for example, the new Junior College, are in prospect.

It should be understood these cuts and postponements in services and normal repairs and replacements now being undertaken, however much they may limit the University's usefulness, are considered by the Board of Regents as wise precautions. To go farther will raise serious problems that will affect the efficiency of the University and the present and the future of the interests for which the University was established and is maintained.

The Regents have directed the President to issue the following instructions to the administrative officers, deans, department heads, and members of the staff:

Instructions for Budget Preparation and Administration

Each administrative officer, dean, department head and staff member is urged to cooperate in an effort to conserve the funds of the University so that if present economic conditions continue and state appropriations are of necessity lowered, the University may continue its services to the State without too serious impairment. These methods of curtailment and retrenchment are suggested:

1. No automatic or other salary increases should be recommended except for some unusual emergency.
2. Positions becoming vacant should so far as possible be left vacant and the duties distributed to the remaining members of the staff.
3. Promotions to vacant positions involving salary increases should be recommended only under the most exceptional circumstances.
4. Appointments and reappointments in the lower instructional grades should in general be limited to one year to permit freedom of adjustment in case of lowered student enrollment and appropriations.
5. Temporary and part-time clerical service, and instruction assistance should be limited to minimum needs.
6. Only equipment representing the most essential replacements should be requisitioned. New and additional equipment should not be requested.
7. Departmental supply stocks should be used and replacements limited to emergency needs for operation.
8. No requests should be made for buildings and grounds replacements and additions.
9. Travel requests should be held to lower minimum than in the past.
10. Cooperative projects with other national, state or local agencies should be postponed wherever possible or undertaken only when all costs are provided.
11. New and continuing research and other activities and services carried on with state funds should be limited so far as possible.

12. Savings can be effected in heat, electricity, gas, ice, water, telephone and telegraph, and other services of the Buildings and Grounds Department with the help of members of the staff.

It is imperative that each member of the staff join in the effort to reduce University costs.

On May 21, 1932, the president of the University received from Governor Floyd B. Olson a communication which read as follows:

State of Minnesota
Executive Department
St. Paul
Floyd B. Olson, Governor

May 21, 1932

President Lotus D. Coffman
University of Minnesota
Minneapolis, Minnesota

A letter similar to this is being written to all the elected and appointed heads of the State Government, and to the University of Minnesota.

The reduced governmental income through tax delinquency and the loss of tax-paying ability through salary cuts in private industry and depreciation of income to business make it imperative, in my opinion, that the State of Minnesota and its agencies effect a substantial reduction of expenditures.

It is not the policy of my administration to lower salary standards and thereby produce a depreciation of buying power and a deepening of the depression in which we find ourselves. State departmental costs, however, must be reduced so as to meet reduced state tax incomes and so as to keep pace with general cost reduction. My proposal is to have all permanent employees join me in giving up one half month's salary—we might call it having our vacations without pay. I regret that the reduction will have to take place in June in order to be effective during the present fiscal year which ends on June 30th next.

A substantial reduction of expenditures will be effected in this manner. The monthly payroll of permanent state employees under elected officials, under appointed officials, and under the University as of March, 1932 was as follows:

Elected	\$107,063.12
Appointed	779,128.29
University	440,368.03

Reductions in expenditures for supplies and through other mediums of expenditure have been and will be made so as to effect a substantial reduction in that respect by the end of the fiscal year.

Please also be advised that travelling expenses for your department must be held down to the minimum requirements.

After consulting with your employees will you kindly advise me by June 1st as to whether or not you accept this plan; and also propose a plan for the reduction of expenditures in the matter of salaries of temporary and special employees in your department that you consider fair. And will you please also advise me as to the total reduction for your department.

Confident of your hearty cooperation, I am
Sincerely yours

FLOYD B. OLSON (signed)
Governor of Minnesota

The following reply was sent to Governor Olson:

May 25, 1932

Hon. Floyd B. Olson
Governor of Minnesota
State Capitol
St. Paul, Minnesota

My dear Governor Olson

The Board of Regents of the University of Minnesota directed me in reply to your letter of May 21, to say that it entered upon a program of saving at the beginning of the biennium and that the plan which it evolved was formally adopted April 21, 1932. Publicity was given to the plan and copy was sent to your office.

This foresighted action on the part of the Regents represented an effort on their part to preserve as far as possible the educational and research activities of the University without impairment and to respond to the public need of lessening the tax burden upon the people.

At the time the plan was adopted no mention was made of the amount of money which the University would save the state. The plan, if adopted by the Legislature, will save \$1,000,000, \$400,000 of which will come from support funds distributed over four years beginning with the current year, and \$600,000 from the building fund. A million dollars is eleven and one-half (11½) per cent reduction in the total appropriation of the University.

Your letter is evidently based upon the impression that two weeks' service without pay by all the staff and employees would result in savings amounting to \$220,000 to the state. A clearer understanding of the facts will show that this is not the case. The University is the trustee of funds that have been given to it for specific purposes, such as the Mayo Foundation, the Eustis Fund, the W. J. Murphy Journalism Fund, the Rotary International Club Fund, the Rockefeller and Carnegie Foundation gifts for the Unemployment Study. Salaries drawn from these funds cannot be diverted or held in the state treasury for other purposes. Again, the University has large funds appropriated by Congress which are not available for any purpose except agricultural research, extension and other services for farmers. Service enterprises for the benefit of the student body and paid for by fees, such as the Health Service, support salaries. The diversion of fees for protecting the health of students, to other unspecified state purposes would be a violation of the very high trust reposed in the University by every parent who sends a son or daughter to the campus. Many salaries are paid in whole or in part from tuition. Is it too much to say that parents may properly take the same attitude about education supported by tuition as they surely will about health supported by fees?

When all the salaries paid from revenues derived from non-state sources are subtracted from the total payroll of the University, less than forty per cent of the sum you expect will be available. As a matter of fact, it will only be three-fourths as much as the Regents will provide by their plan.

Furthermore, your plan fails to take into consideration that all the staff and employees are not employed for the same length of time. Some are employed for the calendar year of twelve months, some for the academic year, some for ten months, some for nine months, some for six months, and some for shorter periods of time. Many of these have completed their terms of service and have been paid in

full. The majority of the academic (teaching) staff will receive their final checks on June 15 and will receive no additional checks until October 1. The great majority of those employed on the calendar year basis belong to the stenographic, clerical, and janitorial service and numerically would be the group most directly affected, and, incidentally, because they are in the lower salary scale, most distressed by the plan you propose.

These facts reveal in a general way the complexity of the University's situation and show how impossible it is to apply a generalization or a policy to the University as a whole. It was in light of such facts and because of the desire of the Regents to work the least possible harm to the University that they entered upon the program they have adopted. The action which they took, they have directed me to say, is the expression of their deliberate desire to cooperate with your office, with the Legislature, and with the people of the state generally, in reducing taxes and at the same time to maintain the University on a basis that will enable it to contribute its services and its strength to the better education of youth and to the promotion of researches for which there is grave need at the present time.

In view of the fact that the Regents' plan involves no discrimination between the various classes of the staff and employees, that it imposes no unfair burden upon any one group, that it will produce more savings than the one you have suggested, and the additional fact that it does not weaken unduly the vitality of the University, the Board of Regents has reached the conclusion, both in the interest of the University and the students it serves, and of the state, to continue upon its present program of economy.

Cordially yours

L. D. COFFMAN, President

Following the sending of this reply there appeared from time to time statements in the press to the effect that the University had refused to co-operate with the governor of the state in the present emergency. That is not true. A reading of these two letters will show that the University declined, and for the reasons stated in the letter which was sent to the governor, to join with him and the other state officials in taking a two weeks' vacation without pay during the month of June, 1932. It declined for the simple reason that it could not be done.

Steps, however, were taken by members of the staff as soon as it was practicable to devise a plan which would permit of co-operation. Although the plan which was adopted was devised after the biennium ended, it really should be a part of this report. The plan is as follows:

August 1, 1932

To the Deans and Administrative Officers:

I am enclosing with this memorandum a supply of the following:

1. Letter to staff relative to the plan of work without pay.
2. Letter of authorization to the Comptroller to withhold a proportionate amount from salary checks due November 16, 1932 to April 1, 1933, inclusive.
3. Copies of this memorandum to be distributed for the guidance of the various department and office heads.

The following employes should be requested to join in the plan and should be furnished by the proper department head with the letter of explanation and the Comptroller's authorization:

All employes now in the service or who may enter the service before November 1, 1932, paid on either the regular or miscellaneous payroll, from any fund in the custody of the University, who are expected to render fifty per cent or more service for not less than six months of the fiscal year 1932-33.

The authorizations should be forwarded as soon as possible and not later than November 3, 1932, to the Comptroller, through the proper department head and Dean.

W. T. MIDDLEBROOK,
Comptroller

August 1, 1932

To the Members of the Staff:

This letter goes to every member of the staff of the University of Minnesota irrespective of rank or of the type of service rendered. It has been prepared and is signed by a committee representing all major groups of University employees. Its purpose is to present a plan by which the faculty and employes can do their part in relieving the burden upon the state treasury and upon the taxpaying public of which we are ourselves a part and whose interests we share.

What is proposed is upon our own initiative and is in addition to the major economies already in operation by action of the Board of Regents. You will recall that the strict economy plan the Regents have carried has already produced large savings without sacrifice of the essential purposes of the University. They were unable so late as June to apply in the fiscal year closing June 30, the plan for salary reduction proposed by the Governor of the state. The possibility of considering this or some equally effective and workable plan was left for this year.

At its last meeting the Board of Regents informally agreed that any way to bring about additional savings through salary adjustment by the Governor's plan or any other was desirable and if proposed by a representative group of the staff would probably be more just to all our varied groups than any direct action it could take at that time. Your committee's deliberations have been carried on under this double responsibility, first, in speaking for you and second, in justifying the trust implied in the action of the Board.

The committee must explain one other step, its own selection. President Coffman informed the board of Deans sitting as the Administrative Committee of the University Senate of the situation outlined above and asked that a representative faculty and employe committee be selected so that action could be taken before the opening of the academic year. A resolution was approved to constitute by preferential ballot of the Deans a committee of nine, to which the President was to add four others to assure representation where the preferential ballot did not secure it. With this group the Comptroller was associated as an ex-officio adviser. No dean or administrative officer was a member.

After considering many possible methods, your committee thus selected recommends:

1. That University employes should have a part in the general effort to reduce the tax burden.

2. That all University employes regularly employed at a rate of \$1200 or less per annum work for one week without pay.
3. That all University employes regularly employed at a rate of over \$1200 per annum work without pay for two weeks.
4. That the plan should not exclude any person by reason of the fact that his compensation is provided by funds from any source other than the state.
5. That the state should benefit directly by a saving to the taxpayers in the cost of the University from that part of the deductions representing money which came from the state.

It will be observed that the plan contemplates reductions for this year in general conformity with the Governor's plan, but that the method of payment is such as to avoid the extra hardship if the deduction had been made from the salary of any one month.

The plan recommended by the committee has the merit of joining the personnel of the University with other employes of the state in a common and equal effort to relieve the burdens now resting heavily upon the taxpayers. Furthermore, it is definite and easy of administration.

The committee believes that there will be general agreement that existing conditions call for immediate action on our part. We believe that all employes of the University will find in this plan an acceptable means of joining with the Board of Regents in materially reducing the cost to the people of Minnesota of the University's service.

The next step must be taken by the staff individually. You are asked to do your part by signing and returning to the Comptroller the enclosed form.

WILLIAM ANDERSON	C. M. JACKSON
WALLACE BLOMQUIST	S. C. LIND
ANDREW BOSS	LILY LINDSTROM
FRED ENGELHARDT	WYLLE B. MCNEAL
H. A. ERIKSON	F. W. PECK
F. B. GARVER	H. G. RUSSELL
W. F. HOLMAN	WILBUR H. CHERRY,

Chairman.

Approved as members of the Administrative Committee of the Senate:

L. D. COFFMAN	E. P. LYON
W. R. APPLEBY	M. S. MACLEAN
ANNE D. BLITZ	W. T. MIDDLEBROOK
W. C. COFFEY	E. E. NICHOLSON
H. S. DIEHL	E. B. PIERCE
G. S. FORD	R. R. PRICE
EVERETT FRASER	R. E. SCAMMON
E. M. FREEMAN	R. A. STEVENSON
M. E. HAGGERTY	T. E. STEWARD
J. H. HESTER	J. T. TATE
J. B. JOHNSTON	F. K. WALTER
W. F. LASBY	R. M. WEST
J. C. LAWRENCE	F. J. WULLING
O. M. LELAND	

To the Comptroller
University of Minnesota

The special committee of staff and employes, the Administrative Committee of the Senate, and the President of the University, have recommended that all University employes join in the following plan of work without

pay designed to reduce the cost of the University to the state.

1. That all University employes regularly employed at a rate of \$1200 or less per annum work for one week without pay. This will be interpreted to mean the equivalent of one-fourth of one month's salary or one-forty-eighth of the annual salary, if less.
2. That all University employes regularly employed at a rate of over \$1200 per annum work without pay for two weeks. This will be interpreted to mean the equivalent of one-half of one month's salary or one-twenty-fourth of the annual salary, if less.
3. That all University employes authorize the Comptroller of the University to withhold this amount of salary from pay during a five months' period. This would mean that a proportionate share of this amount of salary would be withheld from the ten semi-monthly pay checks due November 16, 1932, to April 1, 1933, inclusive.

I agree to the proposed plan and you are hereby authorized to withhold the proper amount from my salary for 1932-33.

(Signed by staff member)

Constructive Studies Under Way

As was indicated at the beginning of this report, the University of Minnesota has during the last two years been engaged in a number of constructive studies and has planned others for the future that will aid materially in the economic restoration of the Northwest. The losses that would be sustained by the abandonment of these projects will be revealed by a description of the projects themselves.

Minnesota Tax Survey

A tax survey of Minnesota has been one of the university research projects of the past biennium. This survey has been directed by Professor Roy G. Blakey of the School of Business Administration who has had the co-operation of over twenty university staff members from the colleges of Agriculture, Mines, Engineering, Education, Law, Business Administration, and Science, Literature, and the Arts. Members of the Minnesota Tax Commission and the United States Lake States Forest Experiment Station staffs have co-operated also, as have some twenty graduate students of the University. Most of the work of this investigation has been done on a voluntary basis without remuneration in addition to regular university compensation.

This survey includes investigations of the taxation of agricultural and urban real estate, forests, cut-over land, iron ore and mining, banks, railroads, public utilities, and personal property. It includes also studies of highway finance, public school finance, state income, inheritance, estate and sales taxes, as well as of tax administration and public expenditures.

The investigations have been made from the point of view of those seeking a tax system that is at once equitable and practicable, one that will distribute

fairly the costs of public services and at the same time promote the economical development and utilization of the state's resources in order that the people's needs may be met more abundantly and satisfactorily. The purpose has not been the advocacy of a particular scheme of taxes but rather the presentation of facts and principles that will assist the people of the state in deciding for themselves what taxes and tax policies will promote the best interests of Minnesota now and in the future.

Northwest Regional Survey

The Central Northwest Regional Survey Committee although organized several years ago has as a matter of fact been most active during the last two years. It was strictly a university faculty group, and it consisted mainly of men in the social sciences, although there were several from border line fields such as geology. The original objective of the committee, was to bring together as a sort of clearing-house, and with a view to better planning and co-ordinated effort, men at the University who are doing research in economic, social, political, and historical fields. The title of the committee arose out of the fact that it was planned to make the central northwest area a special field for research. It was hoped that by co-ordination of effort the problems of this area could be more fully investigated, and that in time the result would be a more complete knowledge of the situation in the area in which we find ourselves. The area was defined roughly as that which depends more or less upon the Twin Cities as a trading center. The ninth Federal Reserve district, although it extends farther to the west and to the northwest, also roughly defines the area.

The function of the committee was to serve as a steering, promoting, and planning committee. It was to get the work started, but it was not itself as a committee to do the research work. It had prepared for its use, by various members of the faculty, statements of the possibilities of research in the fields of agricultural economics, forestry, business and industrial conditions, social conditions, political and governmental institutions, geography, and history. Some work was done toward preparing a bibliography of these subjects in this region.

For several years the committee had very limited funds, but it set about the task of preparing an atlas of the region.

This work was largely under the direction of a subcommittee of which Professor D. H. Davis of the Geography Department was chairman. Basic maps covering geology, soils, geography, and population of the region, and numerous other maps and charts dealing with agriculture, industry, business, and social conditions were prepared. The work has not been published for several reasons of which one is that the data used did not include the 1930 census figures, and it was thought best to bring the work up to date

before publication. The expense of publication would have been very large, and this also was an obstacle.

As more funds became available for research, as a result of the Rockefeller grant, the committee has seen more rapid progress made on some of the problems which it outlined. For various reasons the committee found it best to change its title to Social Science Research Committee. Under this title the committee still serves in the capacity of a planning, promoting, and steering committee. It still gives primary attention to the problems of the northwest region, but it does not limit itself to such problems. At the present time a number of research projects sponsored and fostered by the committee are being carried on. Among the more important of these we may perhaps mention the following:

1. The distribution and consumption study, under the direction of Professor R. S. Vaile and a committee in the School of Business Administration. This project was a part of the original plan of the Northwest Regional Survey group but it was expanded and made a separate project when the fluid research funds became available. The work already done includes a study of grocery retailing in the three major cities of Minnesota, a study of coal distribution in the Twin Cities, a study of gasoline distribution in the Twin Cities, a study of public merchandise warehousing, a study of flour milling in Minnesota, and several others. Work is still being carried on dealing with changes in the movement of merchandise and raw materials into and out of the Twin City metropolitan area, changes in consumers' expenditures, and several other problems. A series of research bulletins of the School of Business Administration will set forth the results of these studies at an early date.

2. An intensive study of taxation in Minnesota has also been going forward since the spring of 1931. Professor Blakey is in charge of the work, but a number of members of the staff on both campuses have co-operated in the work. The results of this investigation will probably be published this fall in a volume on "Taxation in Minnesota."

3. A smaller project which is nearing completion is a quantitative analysis of the units of local government in the United States, and an important offshoot of this study, dealing with local government and finance in Minnesota. This work is being done by Professor William Anderson and several assistants. The publication of the monograph on "Local Government and Finance in Minnesota" is expected during the late fall or early winter as a result of this study.

4. In the original program of the Central Northwest Regional Survey Committee, the problem of land utilization in Minnesota and adjoining states was put near the head of the list of important problems for investigation. The need for such an investigation has become, if anything, more acute than it was when first suggested. This year the Social Science Research Committee has assisted in the definite launching of this project under the general direction of Professor O. B. Jesness of the College of Agriculture. This investigation links up with the studies of taxation and local government on the one side, and with investigations in the fields of forestry, soils, and agriculture on the other.

If a regional survey is to be of the greatest pos-

sible value, there should be a joining up of all the forces in the northwest area. The research work of the educational institutions of the Universities of North and South Dakota, Montana, Iowa, and Wisconsin should be co-ordinated and the institution brought into the closest co-operation. Nothing has been done along these lines because of the difficulties and expense involved in necessary correspondence and travel.

Committee on Land Utilization

A special committee consisting of Professors O. B. Jesness, Henry Schmitz, and F. W. Peck has been studying the land problem of Minnesota. The preliminary report of this committee contains a discussion of the agricultural development of the state, a report on the soils of the state in general, a discussion of present land uses, a consideration of state land policies, factors affecting land use, relation of taxation to land use, conservation, the importance of a land policy, and certain recommendations. It may be found in abstracted form in the section of this volume headed, "Department of Agriculture."

This report is based upon an actual investigation of many of the problems relating to land use. These investigations include a survey by the Lake States Forest Experiment Station, a federal institution located at University Farm, of tax delinquency in sixteen forest counties in northeastern Minnesota, and also a number of other studies relating to ownership, tax rates, land settlement, public drainage, mortgage foreclosures, resettlement problems, and the maintenance of schools and government in the delinquent areas.

Minnesota is confronted by an especially difficult problem in land utilization at the present time. Prices for agricultural products are so low that farmers cannot meet their financial obligations out of the income they are getting from the land. Land mortgage indebtedness has assumed serious proportions and land tax delinquency has become acute in some of the cut-over counties. About seven million acres of land in the sixteen northeastern counties are delinquent, with prospects of further delinquency occurring in the coming year.

The present maladjustments in land utilization clearly indicate that the long standing land policies of the state and nation should be modified and changed. To date land policies in the United States have been based on the assumption that lands generally were suited to private use and would yield a profitable return in such use. Gradually the limitations of this assumption have become more clearly recognized. Some lands are not suitable for development because of characteristics of the land or climatic factors. Then too, the long-time unchallenged assumption that all of the land suitable for agriculture, forestry, and other economic uses would be needed as rapidly as it could be developed, is perforce being discarded. Con-

trary to expectations the rate of population increase is rapidly slowing down and it is anticipated that the population of the United States will become stabilized before the close of the present century at a figure much below that predicted by those who attempted to forecast the future growth and population of the country.

The remedy would seem to lie in formulating an economic program of land use that will contribute substantially to the permanent improvement of the land. While other problems are equally important, the basic element in all types of crop production is land. Hence, the effective and most economical use of the land becomes a vital basic consideration in solving other land problems. Therefore, it becomes imperative that all groups and agencies concerned with land unite in a co-operative effort to formulate such policies as will contribute to the intelligent use of all publicly and privately owned land. It is equally essential that such policies be translated into definite action resulting in such legislation and personal initiative as will accomplish this objective.

Various members of the university staff, as has been indicated, are giving earnest attention to the problems of land utilization because the University, as an educational institution, believes that it should contribute as much as it can toward the best solution of these problems. It recognizes the basic nature of the industries in Minnesota which center in land use and the degree to which the present and future economic and social welfare of the state is dependent upon just and wise land policies. From an economic standpoint the lands of most significance to the state are those which are unquestionably suited to agricultural enterprises. They are, for the most part, occupied and under operation, but even so, there are problems directly related to them that require consideration. Taxation is one of them. There are other problems, such as settlement on marginal and submarginal lands for agriculture, which are of concern to those located on desirable agricultural land. Therefore, the approach to the solution of land utilization problems should be made with all types of land in mind and with the welfare of all the people, both rural and urban, in view. That is, these problems are of concern to all of the people of the state.

The researches of the Agricultural Experiment Station have been more directly turned toward problems bearing upon the farm income. The results of the farm accounting and production cost studies have been used by the farm management specialists and extension staff in reorganizing the production program of many farms. Because of the low price level of farm products, increased attention must be paid to efficiency in low cost production and to organization of farm enterprises that will make possible the adjustments needed to meet the present economic situation.

Methods of carefully evaluating land as to suitability of given uses and which may serve at the same

time as a basis for equitable taxation and financing are important factors in stabilizing agriculture and other industries which are largely based on land use. Agriculture and forestry, both of which are basic industries, would be greatly safeguarded by well-established policies of equitable taxation and financing. Studies are under way giving specific attention to these subjects, with the hope of developing more equitable bases of assessment and more permanent and satisfactory sources of credit in the interest of a stabilized agriculture.

The Agricultural Extension Division is equipped to carry economic information directly to the farmers of the state. The results of research of the scientific staff, improvements in methodology and technique, and the results of investigations are quickly translated into action through the co-ordinated program of research and extension teaching. The attention of the extension staff is now, more largely than ever, centered on the economic and social needs of the people. Encouragement of co-operative movements, the application of sound economic ideas, and the appreciation of true values in living, hold a prominent place in the extension program.

Industrial Economic Readjustment

A committee of university scientists, with Professor L. H. Reyerson as chairman, has mapped out a constructive program of research which, if carried through, will provide necessary relief to some of the pressing economic problems of this area. The committee has been at work upon the problems here-with outlined, but it will be unable to carry them to their full fruition without additional assistance. That assistance should come from the state and from industry itself. Unless progress is made quickly and effectively along the lines indicated in the statement that follows every type of industrial enterprise in the Northwest, including agriculture, the banks, railroads, and the like, will find it necessary to operate on a smaller income in the future than in the past. And this necessarily will affect the operation and maintenance of all the humanitarian and educational agencies. The University should and will give of its strength and energy and income to solve these problems. Most of the money it has obtained thus far for research has not come from the state nor from local industry; it has come from the great foundations of the East. The amount of money which the University can properly divert to research from its appropriations has been limited by the constantly increasing number of students it has had to instruct. Classes have been increased in size until the breaking point has been reached in many departments. And yet the pressure to reduce expenses on the one hand and to provide for research on the other, never ceases or grows less. The University consistently tries to carry forward along all these fronts, believing that a superior grade of instruction to stu-

dents on the campus is co-equal in importance to other lines of effort in which it may and should engage.

The economic situation of this area did not arise because of anything the University has taught. It is due to forces and agencies that lie outside the purview of the University's work. The University, however, will, as it should, do what it can to provide some of the necessary remedies and corrections for the situation.

One needs only to review briefly what has happened in Minnesota and the Dakotas during the last fifty years to appreciate what needs to be done.

Industrial Economic Readjustment

Man had available for his development of these states many natural resources. Of these, four stand out as being prodigal in the giving of wealth to man. These are the forests, iron, lignite, and the natural fertility of the soil. The forests of today are but a remnant of what they once were and they contribute at present very little to the economic life of the region where once they provided man's sole activity. The iron mines have in many ways taken the place of the lumber industry of the North, but once the iron is mined, it will be gone from that district forever. No doubt iron mining will continue to contribute much to the wealth and activity of northern Minnesota for many decades. Unless something unforeseen develops, however, the demand for iron is not going to increase in the future as it has in the past.

In the matter of the conservation of soil fertility man has indeed been lax. Farmers in many regions have literally mined the necessary ingredients for plant growth until the land is known as marginal land. Large areas in western Minnesota and the Dakotas are now definitely in need of phosphate fertilizer, other areas need nitrogen in addition to the phosphate. Still other areas need small amounts of definite chemical elements in order to keep up or restore fertility to the soil. The situation is acute in certain regions. A former state chemist of Montana reports that soils in certain areas of eastern Montana have not enough plant food left to raise one good crop. If soil fertility is to be maintained it is evident that increased and intelligent use of fertilizers must come. At the present time much of the commercial fertilizer sold to the farmers is produced abroad or in the eastern section of the country. Transportation costs make the large scale use of these fertilizers almost prohibitive in cost. In fact during 1929 Minnesota used about 13,000 tons of commercial fertilizer. In comparison Alabama used half a million tons. It is evident that the Northwest has not begun the use of commercial fertilizers on anything but a very small scale. However, soil fertility of the Northwest may be maintained and even restored by efficient land use and the proper application of commercial fertilizers.

Lignite, the fourth natural resource mentioned,

has not been used to a great extent as yet. Scientific investigations of lignite have largely concerned themselves with its preparation and use as a fuel. Very little if anything has been done to determine its usefulness as a basic material in the development of a major chemical industry in this region. Chemical researches on lignite will, beyond much doubt, be able to show that from this source the farmers of the Northwest may be assured of nitrogen fertilizers for generations to come.

Except for this lignite development the picture of the future of the Northwest is not particularly pleasant. Moreover, chemical science in its present research trend is not proceeding in the direction which will be of great benefit to agriculture. It has been the history of chemistry in the past when fictitiously high prices have been maintained for products raised on land, that these substances have been synthesized and agricultural production of these products has ceased. It might be well to give a few examples of such fundamental changes. For many years the agricultural production of indigo constituted one of the important phases of life in India and the East Indies. The German chemist Von Beyer, after long researches, finally succeeded in synthesizing indigo from naphthalene. In 1897 the first synthetic indigo appeared on the market and by 1911 there was no longer any natural indigo available. Following the war came the great expansion in the production of synthetic chemicals. One of the first products prepared in this way was methanol or wood alcohol from carbon monoxide and hydrogen. By 1926 synthetic methanol was threatening the wood alcohol industry and today it has completely replaced the older method of wood distillation.

Cotton is today suffering from the competition of the chemist. In recent years tremendous advances have been made in the preparation of alpha cellulose from wood pulp and other sources. The chemist today is able to produce a high grade alpha cellulose for less than seven cents a pound. From this may be made the rayon of commerce, high grade paper, and the cellulose lacquers. The cotton growers attempted to maintain fictitious prices and as a result of these chemical discoveries they can no longer expect to obtain more than eight to ten cents a pound at the cotton field. As a result, large areas now devoted to the growing of cotton will be forced to abandon its production since these districts cannot now raise cotton profitably for ten cents a pound.

The Northwest has for a long time been a producer of flax seed. Much of the flax went into the production of linseed oil. This may be a rapidly declining product of agriculture in the near future for it is already reported that linseed oil has been synthesized. Whether or not synthetic linseed oil will ever be able to displace the natural product is a question, but another synthetic drying oil bids fair to compete with linseed oil. Divinyl acetylene has been found to have remarkable properties as a drying oil.

For example, it does not need the oxygen of the air in drying as is the case with linseed oil, but dries by polymerization. These developments together with the constantly increasing use of the new lacquers, such as Duco, will tend to reduce markedly the use of linseed oil unless research is able to develop new uses for it.

It is evident even from this brief presentation of the facts that agriculture in the Northwest is fighting a difficult battle. Diminishing fertility in many regions plus the competition of synthetic materials are making heavy inroads upon profitable farming. On top of this we find overproduction as a present factor in agriculture. As Henry Ford says, "the dinner table of the world is not large enough to use the products of agriculture." New uses must be developed for the substances raised on the land. Science must come to the aid of the farmer in different ways than it has in the past. *Chemistry and bacteriology must develop new materials and uses for old products.* Not only is the Northwest experiencing difficulties in agriculture, but industry in this region is undergoing major changes. Several of the major industries of the region have established large plants elsewhere and are moving slowly from this district. Other major industrial developments have passed the peak of activity and are entering a period of declining industrial output. Many factors are involved in these changes. One of these factors which is too often overlooked is the matter of population. According to the latest statistical information the agricultural population of Minnesota has about reached saturation. The state as a whole needs only a few hundred thousands more people to reach the saturation point as shown by Dean Scammon from its growth curve. In fact during the period of 1920-30, Minnesota produced a greater excess of births over deaths than its actual growth. During this period as Dean Scammon has shown, the state actually lost about 70,000 of the people that it produced. The state grew, it is true, but at a slower rate than its excess of births over deaths. This slowing up in growth gives rise to serious problems, the chief of which seems to be the shift of population into the older age groups.

Proposed Research Projects

The Committee on Industrial and Economic Readjustment has outlined the following projects as necessary for the economic rehabilitation of the Northwest.

Project I. The fertility of the soil in large areas of this region is diminishing, consequently it is necessary to find means of increasing the fertility of the land. It is proposed to study the preparation of industrial hydrogen from lignite, so that synthetic ammonia may be produced on a large scale. This, together with phosphate from Montana, would make available the finest of fertilizers for generations to come. There are in the Northwest a thousand billion tons of lignite which is only being used in a small way for fuel. It is similar enough to German brown

coal, so that we feel certain that it can be used in much the same way as at Leuna in Germany.

If soil fertility is to be maintained, it is evident that increased and intelligent use of fertilizers must come. At the present time, commercial fertilizer is not used to any extent. Only about 13,000 tons were used in Minnesota in 1930. This is due, in a great measure, to high costs, and these are, in part, due to the long freight haul and resulting high transportation costs. Production of this material in the lignite fields would make large amounts of fertilizer available in this region when needed.

Project II. The production of alpha cellulose from the aspen of northern Minnesota. Alpha cellulose is one of the large developments in chemical industry that have occurred since the war. Its production from the second growth timber of northern Minnesota would bring new industry into that section and provide a use for timber which suffers from dry rot after forty to fifty years of growth. This is the material from which rayon is made.

Project III. The industrial utilization of low grade grains and other agricultural by-products by chemical treatment or bacteriological action. The committee is of the opinion that there is a great field for useful research in this direction and that successful researches would be a great boon to agriculture in the Northwest.

Project IV. The industrial and chemical utilization of peat. Very little is known about this problem, and the committee proposes a survey of the possibilities for research along this line.

From another point of view, the Northwest has been lacking in the utilization of scientific facts in industry and in the prosecution of researches of industrial character. There are only two groups who are doing large scale research in this region. We are aware, for example, that science has caused, and is causing, large-scale industries to disappear and others to move from this district. Several of our major industries have established large plants elsewhere and are slowly moving away, i.e., the move of the milling industry to Buffalo.

When man entered the Northwest, he found four natural resources on a large scale—the forests, iron, lignite, and the natural fertility of the soil. The forests are but a remnant of what they once were, iron is going, as is the fertility of the soil. The committee is convinced that major scientific research programs, differing from those now operating, must be undertaken. New industrial activity based on these researches must be brought into this region. The fertility of our soil must be kept up, and new uses for the products of agriculture must be developed.

The Minnesota Employment Research Project

The most pretentious, and some have said the most important, study of unemployment being made anywhere in America, has been carried on at Minnesota during the current biennium.

Research on Employment Stabilization

A total sum of \$380,00 was made available for the Minnesota Employment Stabilization Research Project by grants from three eastern foundations. The Rockefeller Foundation presented the sum of \$150,000 to the University for an economic study. The Carnegie Corporation granted a sum of \$150,000

to the University for the purpose of a research experiment in the diagnosis of individual aptitudes and retraining of unemployed individuals. The Spelman Fund appropriated \$80,000 to supplement the funds provided by the state of Minnesota and the three cities of Minneapolis, St. Paul, and Duluth for the conduct of the public employment offices on condition that the offices be placed under the advisory control of the Tri-City Employment Stabilization Committee. The administration of the public employment office project was thus placed essentially under the organization that was conducting the research project in the University.

The particular feature of the local situation that led the foundations to provide such generous support was the spirit of co-operation that was evident between the active business, labor, and civic groups in Minnesota and the research workers at the University. Representatives of the foundations were very much impressed by the fact that here they saw all the interested groups attacking the most pressing economic problems of the region. There had been an organization effected prior to the establishment of the Employment Stabilization Research Institute in which there was representation of business, labor, the social agencies, and municipal and state governments. In fact it was at a meeting of this group in December, 1930, that a suggestion to undertake a comprehensive study of unemployment in this region was first proposed. This spirit of co-operation has prevailed throughout the experiment.

The Economic Project

An idea of the extent to which business groups have co-operated may be gained from the following tabulation:

1. Five hundred twenty-five firms are furnishing, currently, data on employment, earnings, and hours. This information is being used in the preparation of an employment index for the three cities and for the state of Minnesota.

2. Five hundred manufacturing firms have furnished complete accounting, market, and production data for a five-year period. This has all been compiled in a report showing the types of business that are increasing in the community and those that are declining.

3. The retail concerns and real estate firms of the Twin Cities are furnishing, currently, data on cost of living.

4. Thirty-three firms are co-operating in a detailed market, cost accounting, and production standards analysis of the mill work industry. It is the purpose of this study to determine the particular factors influencing the conduct of this industry in the Twin City area.

5. Twenty construction firms are at present co-operating in a detailed survey of construction from the standpoint of financing, costs and profits, volume of construction, and methods of stabilizing constructional activities. The construction industry employs a large proportion of the

skilled workers in Minnesota. Thus any plans for stabilizing this industry will have far-reaching effects.

6. Fifteen dry milk and casein factories are co-operating in an effort to standardize and improve methods of manufacture and to find a wider market for their product.

7. The Minnesota Bankers' Association and several individual banks in different sections of the state are co-operating on a study of bank management and investment problems.

8. The state bank examiner's office is co-operating on a study of the causes of bank failures in Minnesota.

During the first year of this project the major part of the time has been devoted to the collection of primary data. From now on the attention will be devoted primarily to the analysis of these data and the presentation of results. Certain fairly definite conclusions are being formulated at present, however, and are being presented to the industrial groups affected.

A study on the location of industry, for example, has measured statistically the degree of concentration or dispersion of the various major industries in the United States. It has demonstrated that certain industries have been, throughout the period of 1899 to 1929, very much dispersed over the entire country while others have remained highly concentrated. Since 1914 it has been shown that there is a noticeable tendency for industry in general to become less concentrated. It has shown further that the tendency toward concentration of industry in particular geographical areas is not associated with size of the individual plant. This study has also shown the extent to which the state of Minnesota participates in the various industries which might be expected on the grounds of resources to develop here.

The study of individual industries has demonstrated the possibility of developing control devices. A technique has been developed whereby individual plants in each of the industries studied may measure its position in the industry and the condition of the industry within the region. There has been developed a technique whereby the industries of the region may clear operating and management information to promote the well-being of the industry within the state. It has shown how the flow of capital into those industries which have an indicated overcapacity, may be controlled by voluntary action.

One of the most significant developments is the experiment in the dovetailing of employment between industries for different seasonal peaks. The most skilled workers are kept the year round, their work being stabilized by various devices such as shifting jobs within the plant. The point of attack, therefore, was made upon the less skilled groups.

Even among the less skilled workers, however, it was considered necessary to determine whether or not the work performed and the aptitudes required of the workers were the same in the plants between

which it was planned to shift the workers from season to season. It was decided that the best method of securing this information was to test the seasonal workers who were successfully performing their jobs.

The firms approached demonstrated a remarkable willingness to co-operate. They were sensitive to the problem that their workers encounter in finding work in the off-season, and the advantage that would accrue to themselves of a system by which their laid-off workers would not drift away but would come back to them each year. There are prospects for the establishment of a stabilized labor market among the plants included in this group.

Individual Diagnosis and Retraining Project

Approximately four thousand unemployed persons have been examined in the two clinics established at the University and in the courthouse in Duluth. This work was completed June 30, 1932. Examinations have also been given to 2,000 employed persons in selected occupations. Compilation of the data obtained is going forward.

The Committee on Individual Diagnosis and Retraining has also made a number of significant contacts with co-operating agencies. The research directors of a number of national organizations have come to Minneapolis to study the work and are now co-operating in various ways. The United States Office of Education, the United States Civil Service Commission, the Federal Board of Vocational Education, the Personnel Research Federation, the Psychological Corporation, the National Educational Research Association, the American Psychological Association, and the New York Vocational Service for Juniors are all co-operating.

State and city institutions in Minnesota have given generous co-operation. In each of the three cities, the Division of Re-education of Disabled Persons of the State Department of Education has placed at the disposal of the institute a full-time worker to assist in caring for the needs of physically handicapped persons. Family welfare and poor relief organizations in each of the three cities have given much assistance and have in turn asked for information regarding the vocational possibilities of hundreds of unemployed persons. The public school officials of each of the three cities, especially of Minneapolis, have extended assistance and have received information regarding individual cases referred for examination. The public employment office in each of the three cities is now supplied with a trained psychologist to assist in making their guidance and placement service more effective.

The final conclusions in this study cannot be made until the statistical studies now under way are completed. It is evident, however, that the need for occupational guidance is no longer a problem that faces young persons only. Social welfare in the modern economic world is becoming more and more

dependent on the possession of exact knowledge of the requirements of each task and of the characteristics of each worker available.

It is also evident that educational institutions must take a greater interest in the changes that are occurring in the world they serve, select their students more carefully, and train for each type of service only those persons who have a reasonable supply of the native characteristics required in that service.

Public Employment Offices

The public employment offices were placed under control of the Tri-City Employment Stabilization Committee which has representation from the labor groups, the city and state governments, and the employer groups. This committee has extended its influence by the establishment of sponsoring committees in each of the three cities. These committees include representative business men and civic leaders. Relief agencies in each of the cities have also co-operated. These include the Bureau of Placement of the Handicapped, the Red Cross, Y. M. C. A., Y. W. C. A., and the family welfare agencies.

The public employment offices are being made to serve their purpose as one of the effective social institutions of the state. There has been created for example, a city work division to handle the made work and to clear relief cases through organized social groups. Registrations for work on both public and private projects have been co-ordinated. A technique has been developed and extended to the public employment offices whereby a scientific analysis of jobs is obtained through contact with employers and observation of conditions in plants and also through the job analysis work of the first project.

Publications

- The publications to date include the following:
- The Minnesota Unemployment Research Project*, by Russell A. Stevenson.
- Employment Trends in St. Paul, Minnesota, and Duluth*, by William H. Stead and Dreng Bjornaraa.
- Seasonal Irregularity of Employment in Minneapolis, St. Paul, and Duluth*, by Tillman M. Sogge, written under the supervision of Alvin H. Hansen.
- The Duluth Casual Labor Group*, by Alvin H. Hansen, Marion R. Trabue, and Harold S. Diehl.
- Proceedings of the Minnesota Conference on Unemployment Relief and Stabilization, November 17, 18, 19, 1931*, edited by Russell A. Stevenson.
- Business Fluctuations in the Northwest*, by Richard L. Kozelka.
- The Decline of Employment in the 1930-1931 Depression in St. Paul, Minneapolis, and Duluth*, by Alvin H. Hansen, Dreng Bjornaraa, and Tillman M. Sogge.
- An Analysis of Three Unemployment Surveys in Minneapolis, St. Paul, and Duluth*, by Alvin H. Hansen, Nelle Petrowski, and Richard A. Graves.

Committee on Educational Research

The last biennial report, namely that for 1928-30, contained in the special report of the Committee on Educational Research an annotated bibliography of faculty and student publications relating to higher education. The period covered in this bibliography included the academic years 1914-30. The record shows that during this period 103 members of the faculty had published discussions of problems in higher education. The total number of such faculty publications was 430, representing contributions from 14 different colleges or divisions of the University. In addition to these faculty publications there were 65 graduate theses based upon research in higher education. In reviewing this report Professor W. W. Charters, editor of the *Journal of Higher Education* wrote as follows:

The most significant document that has passed over the Editor's desk during the life of the *Journal* is the current biennial report on collegiate research from the University of Minnesota. Some seven years ago, President Coffman appointed a university-wide committee on educational research, and since that time he has given it his continued encouragement and support. Now, at the end of seven years, 273 faculty publications and 54 graduate theses have been completed and issued in this field.

The significance of the report does not lie in the quantity or quality of the studies, although the amount is probably greater than the total output in educational research of the 27 other institutions of the Association of American Universities within the same time. The report is interesting because of the number of studies that have been carried on. It is striking because in the seven years investigations have been made in forty-four departments and divisions of the institution. It is significant because of the wide variety of types of studies that have been made—in class size, alumni contacts, extra-curricular activities, instruction, mental hygiene, reading abilities, students' marks, personnel records, gifted students, and the like.

The chief value of the report, however, lies in the fact that it illustrates what can be done by a faculty of a university with the enthusiastic support of the president and of the deans. No cataclysmic survey was made by outside agencies, no experts were called in from other institutions, and no huge sums of money were furnished. The faculty committees provided their own techniques of investigation by using facilities found within their own numbers. Comparatively small sums were allowed for clerical labor, and little money was available to permit the release of men from their usual university duties to direct the major studies. Graduate students assisted extensively.

When the situation is examined more closely it appears that departments and divisions organized themselves for the study of their own individual problems. In one department the use of four specimens per student instead of two was an immediate problem; in another, the size of classes was of importance; and in a third, the content of courses was the pressing consideration. Committees were set up to work upon these questions, and facilities were provided. Then, too, the programs of investigation were

continued from year to year as an accepted university activity.

Interestingly enough, this persistent attention to the problems of instruction and administration has not decreased the production of research in the subject-matter fields. Though figures are not available it is felt that the studies in this field have stimulated research in all directions as is to be expected. Not all faculty members engaged in this research, for some were not interested, while others were interested in both types of research. What happened was that potential power became active, and the members of the faculty whose interest lay in teaching were given an opportunity to explore their problems. The University of Minnesota is setting a fast and steady pace for all the institutions of higher education in America.¹

During the current biennium, 1930-32, this stream of publications has continued. The report of the Committee on Educational Research lists 264 publications by 78 members of the faculty, and 31 graduate student theses. The centralized university agency for the co-ordination, stimulation, and direction of such studies is the University Committee on Educational Research. During the past year of the current biennium the program of this committee commend itself to the attention of the Carnegie Foundation for the Advancement of Teaching with the result that that foundation made a grant to the University, available over a two-year period, of \$20,000 for the expansion of the committee's activities. Approximately \$10,000 of this amount has thus far been spent.

It will not be possible here to mention even by name all of the separate research projects which have been going forward during this biennium. For illustration a few of more than ordinary public interest will be noted.

Land Grant College Studies

The University of Minnesota participated actively in the investigation under the auspices of the United States Office of Education of land grant institutions of higher education. It did more, however, than merely provide for the federal study the local factual information requested. It set actively to work at the beginning of this investigation to distil as much as possible of the general study that would be of interest to the University of Minnesota. Dr. Palmer Johnson served first as the University of Minnesota agent for the collection of the material on the ground and later, after spending three months in Washington as a special assistant to the Office of Education, prepared an exhaustive report, of special interest to Minnesota. The report now in press contains the following chapters:

- I. Educational Units and Income.
- II. Fiscal Tendencies at the University of Minnesota
- III. Fiscal Tendencies at State Universities
- IV. Land Grant College Libraries

¹ W. W. Charters. *Journal of Higher Education*, 2:219-229. 1931.

- V. The Selection of a College
- VI. Student Residence and Migration
- VII. Enrolment Trends
- VIII. Farming as a Career
- IX. Faculty Personnel
- X. A Student Personnel Study
- XI. Significant Educative Factors
- XII. Graduates and Occupational Stability
- XIII. The Human Product

Alumni Contacts

One of the earliest problems considered by the Committee on Educational Research was that of improving the contact of the University with its various alumni groups. Working under the direction of the present subcommittee, Mr. I. O. Friswold, instructor in education, has completed a preliminary study of alumni contacts and influence in American colleges and universities.

This study in its present form is divided into four parts:

Part I presents an overview of the problems associated with alumni and institutional contacts, and describes the scope of the study and the method of investigation.

Part II deals with the relation of alumni to institutions of higher education under the major topics of (1) the development of organized alumni influence in American colleges and universities, (2) the influence exerted by alumni in higher education, (3) the participation of alumni in college administration, and (4) a consideration of the true function of alumni in higher education.

Part III is concerned with the relation of colleges and universities to their alumni. Alumni can be of service to their colleges but it is equally true that higher institutions are to some extent obligated in turn to serve their alumni. Attention has been given in Part III to such topics as (1) problems in the promotion of institutional contacts with alumni, (2) representative programs of institutional contacts with alumni, (3) educational contacts with alumni, (4) the preparation of undergraduates for alumni status (5) alumni education, (6) experiments in alumni education, and (7) studies in alumni education.

Part IV is devoted to relations between alumni and the University of Minnesota. In this an effort has been made (1) to present a history and preview of alumni and university relations, (2) to describe the place of alumni in the life of the University, (3) their general activities in promoting the interests of the institution, and particularly with regard to (4) legislative and (5) athletic interests and activities. In addition to these such matters as: (6) keeping alumni informed about the University through the *Minnesota Alumni Weekly*, (7) alumni participation in university administration, (8) alumni education, and (9) the interest displayed by the University in its alumni are treated as fully as available source materials have permitted. In conclusion the study presents (10) a proposed program of alumni and institutional relations for the University of Minnesota.

Utilization of the University Plant

A study of the problems associated with the effective utilization of college and university space has been undertaken for the Subcommittee on the Utiliza-

tion of the University Plant by Mr. I. O. Friswold, instructor in education. This study consists of two major divisions. The first of these is devoted to an analysis of utilization studies made at other institutions. The second division consists of an extended study of space utilization at the University of Minnesota.

An extended study of space utilization has been undertaken at the University of Minnesota to ascertain (1) the types of space provided, (2) the uses made of it, and (3) the degree to which it is used with a view to revealing existing conditions, making suggestions, and inaugurating practices designed to promote a more efficient utilization of the physical plant. To administrative officials charged with responsibility in formulating policies and procedures, it is important to know to what degree present plant facilities are being used to their maximum; what proportion of the total space is devoted to instruction, to administration, research, public service, and to outside agencies; the relation between scheduled and unscheduled instructional space; the extent to which scheduled space is used weekly in terms of periods available and many other matters.

College Examinations

On April 4, 1931, the following letter was sent to the chairman of the Committee on Educational Research:

My dear Dean Haggerty:

I am inclined to think that the various University authorities would welcome increased activity on the part of the University Committee on Educational Research in studying the whole subject of comprehensive examinations and in providing for the preparation of these examinations.

I am quite clear myself that we should look forward to the time when we should have a general University committee in charge of examinations; that is, in case the comprehensive examination movement justifies itself.

Cordially yours,
(Signed) L. D. COFFMAN, President

This letter was prompted not merely by examination practices prevailing in the University of Minnesota, but by a widespread concern throughout the field of higher education regarding the weaknesses inherent in prevailing examination procedures. There is a clearly perceptible tendency throughout the educational world to employ examinations in a more coercive and drastic fashion than has hitherto been characteristic of American education. This tendency not merely affects the educational institutions themselves, but quite as distinctly all those fields of occupational interest into which students go from one or another level of the school system. Numerous committees and co-operative agencies as well as individual institutions throughout the country are now concerned with the problem.

As the result of its activities the committee issued in April, 1932, a preliminary bulletin designed to

prepare a background of common understanding out of which projects for examination improvement could naturally arise. This bulletin of sixty pages embraces a brief review of the significant events in examination history from the beginning of American higher education down to the present time. It further sets forth the need for examination improvement and defines certain sound principles of examination procedure. The bulletin also contains a brief statement of a study of examination practices at the University of Minnesota developed under the direction of the committee, the work being done by Dr. Lucien B. Kinney. Finally, the bulletin contains a list of sixteen separate examination projects which have either been carried through or are in progress at the University of Minnesota. It also sets forth twelve different projects for special study. Each of these projects calls for extended research and the formulation of a university program based upon the results of investigation.

Relation of the University to the Public Schools

The growth of American education has centered about three points of major interest, the elementary school, the secondary school, and the institutions of higher education. The development of schools at each of these three levels of advancement has been largely in the hands of different individuals. There have been separate boards of education for elementary schools, frequently for high schools, and generally for colleges and universities. Teachers and administrative officers in charge of one unit have very often had no relationship to the development in any other one of the three types of institutions. The outcome of this situation has frequently been a failure of one unit properly to articulate its work with that of any other unit. Students passing from the elementary school find an unnatural break in their educational progress when they enter the high school. Similarly high school graduates find the passage from secondary school to college made artificially more difficult by the disparate organization and management of the new institution. This lack of articulation has not been local but nation-wide, and the situation in Minnesota has been but a part of the general picture. In recent years many distinct efforts have been initiated to overcome the artificial chasms thus drawn across the educational institutions into something that may more definitely be characterized as a system of education. The point at which the problem created by disarticulation of educational units is most crucial for the University of Minnesota is the break occurring between the high school graduation and university entrance.

Throughout its entire history the administration of the University of Minnesota has sought to overcome artificial impediments to student progress arising from this situation, and as a result of these efforts the University not merely enjoys a cordial

community of interest with the high schools of the state, but it has gone far to develop sound educational practices. So complex, however, is the problem that there is great need for further light upon the best methods of articulating the University with the public schools.

With these conditions in mind the Committee on Educational Research during the past biennium has created a special subcommittee composed of members of the faculty and administrative staff from all sections of the University with a view to making helpful researches in this field. Mr. Henry Kronenberg has served as a fellow under the Carnegie grant for this committee and will continue to do so during the next year. This committee is under the general guidance of Professor Charles W. Boardman who is acting as its chairman. As the plans of the committee develop, it is expected that there will be added to it interested teachers and administrative officers, from the public schools. The committee has already worked out an elaborate program defining studies which are needed in order to clarify administrative practices, has outlined methods of investigation, and has set up the probable budgetary requirements for their satisfactory investigation. It is the hope of the committee and the administration that these proposed investigations will be undertaken one at a time and carried through to completion as rapidly as resources permit. The nature of these problems may be suggested by some further details of one project which is already in progress.

An Experimental Group

It is proposed to admit to the University at the beginning of the fall quarter, 1932, a number of students who have graduated from high school but whose pattern of studies while in high school did not serve to prepare them to meet university entrance requirements. These students will be admitted to the University without prejudice, and will be permitted entrance to the college and curricula of their choice in so far as their future progress seems at all possible, and their college careers will be followed with careful evaluation of their success. This group of students, while registered in the usual manner in the various colleges, will also be under the immediate direction of the subcommittee which is sponsoring this project. This committee will provide such personal guidance to them individually as seems possible and desirable. As a result of this investigation which obviously will require several years for its satisfactory evaluation, it is hoped to determine more accurately and on the basis of factual evidence the validity of present entrance requirements to the University in so far as these involve definite curricular patterns of high school work. Other pressing problems lying in this field of the relation of the University to the public schools will be undertaken as rapidly as university resources permit.

Studies in Physical Education

Physical education is a required subject for all women and for the men in most of the colleges in the University. These requirements date back to a period when little or no work in physical education or athletics was available in the lower schools. The nature of the activities in physical education has also during the past decade undergone many changes, certain of them of a fundamental character. Serious question has arisen in many quarters as to the desirability of continuing the physical education requirement for all college students. At the request of Dr. J. Anna Norris, head of the Department of Physical Education for Women, and of Mr. Herbert O. Crisler, director of Physical Education and Athletics for Men, the Committee on Educational Research undertook in 1930-31 a series of investigations designed to determine more accurately than is now known the actual results of the physical education activities now required of university students. A university-wide committee was created and fellowships were provided so that certain graduate students could engage in certain long-time investigations. Mr. Herbert Wald and Miss Elizabeth Graybeal held these fellowships for one year and their appointments have been renewed for the year 1932-33.

The problem undertaken by Mr. Wald was to determine the differences in physical efficiency resulting from activities in physical education. With the co-operation of the Department of Physical Education for Men, the Students' Health Service, and members of the subcommittee, he has carried through one stage of the investigation and has prepared a manuscript of fifty-two pages covering the results of his work. The investigation deals with the effect of experience upon blood pressure, pulse rate, grip test, and the length of time necessary for the return of heart rate to normal after exercise. The study also deals with individual variations and with differences between athletic and average student groups. The studies seem to show the possibility of demonstrating by cardio-vascular measures large differences in physical efficiency between average students and athletes, and tentatively suggests that physical education maintains this efficiency. The investigation thus far is merely preliminary and will be extended during the coming year to larger groups of students with a view to more accurate determination of the incidence of the physical education requirement upon physical competence.

Miss Graybeal's work during the current year has consisted in employing accurate measures of general motor ability in college women. As a result of her investigation, which is reported in a manuscript of sixty-one pages, a set of tests for the purpose of measuring the differences in motor ability of individuals is now available. The plan of further investigation involves the measurement of differences between two groups of students who during the coming academic year will be studied with these meas-

ures. One group of students will be required to pursue the regular physical education program. The second group of students will be excused from physical education activities but will be required to report at regular intervals for the purpose of taking the required tests. All of these students will also be required to report on their general physical activities and the records of the Students' Health Service will be employed as indications of health status. It is expected that this investigation when completed will reveal what differences in motor ability, if any, result from the required physical education program followed through a one-year period.

It cannot be claimed that the studies outlined above adequately evaluate the physical education requirement. They do, however, provide helpful first approaches to a very intricate problem, and if they can be followed by other studies through a period of years, it will be possible for the University to define and administer its physical education requirement on the sound basis of factual knowledge rather than merely upon empirical grounds.

Occupational Supply

Current conditions of unemployment render acute the problem of occupational supply. The University is frequently urged to limit its enrolment in the several professional schools because of a limited social demand in professional fields for trained university graduates. Strong and vigorous arguments are made upon this thesis. The matter is more easily conceived in theory, however, than executed in practice. The demand for professionally trained university men and women is a fluctuating matter. As economic and social conditions alter, the call in particular fields goes up or down. New fields, also, are being developed and old fields are differentiated into new suboccupational groups. The effort to deal with individual college students, to advise them as to the probable future employment in a particular occupational field, to discourage their entrance upon particular occupations on the ground of occupational overcrowding, presents a grave educational responsibility to the University.

It is perfectly clear that the University of Minnesota is not in possession of all the information which it needs to develop a sound practice of the limitation of professional school enrolments in terms of occupational demand. It is clear, however, that the practices of the University could be carried forward more intelligently if more information were available. The administration has therefore encouraged studies in this direction. A considerable amount of important data was collected concerning the graduates of the University, their occupational histories, and present employments as a part of the Land Grant Investigation. Some of this material will be published in Dr. Palmer Johnson's projected report. Other available material from this source remains to be interpreted and will be published later. The ad-

ministration of the Medical School has collected important data upon the number of physicians available and needed in Minnesota. Over a period of a decade the College of Education has carried through more than a dozen investigations dealing with the demand for College of Education graduates.

During the past year the Committee on Educational Research created a special subcommittee to outline studies that would give a more comprehensive understanding of the university situation in this matter. This committee was composed of representatives of major professional schools of the University. Mr. Eugene Carstater, a Carnegie fellow, has served the committee in the collection of such information as is available in published reports of the problem. His studies have included particularly the demand for graduates of the School of Medicine and for those from the Engineering School. He has given some attention also to the civil service demand. This committee is interested in projecting a series of investigations that will seek to clarify the important issues involved in the university relation to the demand for trained workers.

The Junior College of the University of Minnesota

The most significant administrative change made during the biennium was the establishment of the Junior College. The public statement announcing the establishment of this college is as follows:

The University of Minnesota is constantly studying its program, its student and faculty personnel, and its facilities that it may better perform its educational tasks and make its due contribution in social service and scholarship. In this University we have felt that these three things are intimately interrelated and in a certain sense almost interchangeable. Good teaching cannot wisely be separated from contact with, or active participation in, creative scholarship, and both teaching and research are major social services.

Such changes as we have made and are making in our program have dealt with three major and constant factors—faculty, facilities, and students. The third factor, the student and his interests, has naturally and properly been our chief concern. If the University were purely a research institution or a group of professional schools, the emphasis would be differently placed in any present consideration of programs and institutional readjustment.

Almost every college has in some way, by its studies and program modifications, thrown light on the qualities and capacities and needs of its own student body and will continue to do so. Each in its way has revealed educational problems and needs common to the thousands of students registered in the dozen or more different colleges of the University.

Two committees have been established as indirect agencies of the University Senate. One is charged with initiating and directing studies of the educational problems arising in the University, and especially the common denominator problems of several colleges. This committee is the University Committee on Educational Research under the chairmanship of Dean M. E. Haggerty. The

second committee is the Committee on Administration Reorganization.

The first committee has initiated and published numerous studies that have affected our thinking and educational practices and those of other institutions. It has pointed the way toward necessary readjustments in curriculum, methods, and organization. The second committee is generally known as the Committee of Seven and includes Dean W. C. Coffey, Dean Everett Fraser, Dean M. E. Haggerty, Dean J. B. Johnston, Dean J. C. Lawrence, Dean E. P. Lyon, and Dean G. S. Ford. It has had the concrete task of considering and formulating the necessary steps in reorganization to keep the complex administration of the University up to its maximum efficiency. A year and a half ago it secured the establishment of a committee on special curricula for students who had a particular life-purpose in their education that could be better served by eclectic freedom in making an educational program combining the offerings of several colleges but not meeting the degree requirements of any one. This group is small. In this, the second, year it is only about fifty. It is not expected to grow and should not if it succeeds in demonstrating to existing colleges that a university degree may be safely granted by them to students whose programs vary somewhat from the standard course combinations of those colleges. It has already had such an effect—to the benefit of many students whose first approach had been to the chairman of the committee on special curricula called unofficially "the University College."

The Committee on Administrative Reorganization is now ready to outline its plans for a new unit to be called the Junior College of the University. This unit will apply to a much more inclusive group and serve a different type of student under a more definite administrative control and with specially devised curricula.

The Student Body

We know that only approximately fifty per cent of entering students reach graduation. We know that in the first two years there are from 1,800 to 2,000 students who do not pass into the junior year. We know that there are some who may even put in four years or more and graduate who would be equally well served and equally well prepared for the part they will play in their communities by two years of work so directed that it would serve this purpose. And we know that if this can be done it will be a great saving of time and money to them and to the state. All of this saving will, from the social, educational, and economic points of view, be increased by the better distribution of time and attention that can be given to those who are adapted to meeting the requirements of a longer and more exacting period of training. In attempting to secure these gains for both groups we are recognizing more distinctly what common sense, experience, and verified studies have shown, namely, that students vary in their needs and abilities, that no one profits by attempting the same college task, at the same pace, or by the same methods as everybody else who has graduated from any high school at any minimum level permitted by any high school. We seek the only true democracy that should prevail in education, and that is the fullest and richest opportunity for every student to obtain the training to which he is entitled after a careful consideration of his needs and abilities.

The question is not one of exclusion. The existing conditions for general admission to the University will not in

any way be modified by the establishment of the Junior College of the University. The procedure will be slightly modified. Upon the basis of the general conditions now prescribed, admission to the University will be immediate. Upon indicated choice and evidence of qualifications to meet the requirements of the college chosen, the matriculating freshman will be assigned to the college of his choice. As a basis for this allocation the entrance requirements of the several colleges will have the same validity that they do at present. The body of students assigned to the new unit will be those who by choice or qualifications are not expecting or expected to devote four years in college to qualify for enlightened citizenship. This group would include, so far as it can be determined in advance of actual experience, the following.

a. Those who desire to pursue courses or curricula in the new unit that are not offered in existing colleges or who for financial or other reasons have only a limited time to give to preparation for intelligent citizenship in their communities and to general orientation in their choice of, or general preparation for, a vocation.

b. Those who do not satisfactorily meet the entrance requirements of the existing colleges because of lack of training in specific subjects.

c. Students transferred from other institutions who do not meet the standards for advanced standing of the college to which they apply.

d. Students transferred by mutual agreement of the Junior College and the college in which they propose to register or in which they are registered.

e. Those who might not be accepted by existing colleges because of an indicated lack of ability to pursue prevailing curricula.

Provision will be made to shift from one unit or college to another during this period such students as change their plans and show ability to pursue the work of one of the four-year colleges.

The tuition in the Junior College will be \$20 a quarter for students who are residents of Minnesota and \$30 a quarter for non-residents. Other fees will correspond to those charged in other units of the University.

Faculty and Administration

The administration of the Junior College of the University will be headed by a director with the powers and authority usually vested in a dean or director in any of the existing schools or colleges.

The director will presumably associate with himself an advisory or executive committee to consider matters of curriculum, methods, and staff, and for such other purposes as he considers pertinent to the proper development of this new educational unit. The director will, however, be expected to assume responsibility and will be given corresponding freedom in making recommendations to the president in matters pertaining to this college.

It is expected that the faculty will be chosen from the existing staff on the basis of their fitness for, and interest in, the program of instruction and the student personnel of the Junior College. Some members of the present staff will be expected to offer courses both in the new college and in the college to which they are now assigned.

Curricula

The work and courses offered will take into consideration the service that should be rendered to those registered in this new college. Consideration will be given to their

needs from the standpoint both of general education and of vocational interests. In the latter matter the University is not at present prepared to enter upon an elaborate and diversified program of vocational training for periods short of the conventional four years. The immediate possibilities are such courses as will aid in vocational choice and provide a training that will initiate the student into the basic processes and methods of the major occupations open to those who carry on most of the world's business. Thus students may be assisted in solving their own problems and those of their own communities without elaborate, expensive, and long sustained special or professional training.

It may be remarked in this connection that apparently we are producing more lawyers, doctors, engineers, and teachers than are required, whereas the market for intelligent citizens is limitless and their production costs to the state offer possibilities in the economy of time and public expenditure.

Such synthetic, general, and orientation courses are already available to a limited extent; others have been planned but never offered; still others must be devised in the light of experience and demonstrated needs.

It cannot be expected that the new unit will start full panoplied at any given moment. It has been our general plan at Minnesota to develop such experiments as this gradually by the methods of trial, observation, deduction, and action. Whether it is recognized or not, there has preceded this first overt step a great deal of preliminary study and deliberation. The University, through many agencies and individuals, has laid the foundation for this attempt to serve a great mass of students by more adequate recognition of their varying needs and capacities. What is here intended is a greater service to the body of students who are entitled to some broadening experience and training but who do not need or desire the standard curricula suited to a different group with justifiably different purposes. The service to this second group should be equally great if they, too, are set apart and more rigidly trained and judged by methods and standards appropriate to their capacities, preparation, and professional choices.

Relations with Existing Colleges

There remains perhaps, one other matter to be touched upon. In what way will existing colleges be affected and what are they now expected to do?

Neither the new unit nor the Board of Admissions will in any way affect the present standards of admission to any college. Indeed, the administration of existing standards should be made easier by the new arrangements. In any college now receiving freshmen the registration of students definitely interested in, and prepared to do, the work for which the college is ostensibly organized will be just as large.

The work in the existing units should be better done by both faculty and students. Many ready excuses, real and unreal, for indifferent work and results will be voided in the course of time, if not at first. The effect of this should be new freedom in methods, curricula, and standards, and a clearer conception and realization of purposes by the existing colleges. Any such result is pure gain.

If the vitality of the courses and teaching in the new unit approaches the possibilities apparent to the committee, it will set a standard to which alert students will rally, and the existing colleges will have their work cut out for them if they are to keep their desired clientele.

Budgets, staff, and facilities will be affected only to the degree to which the new unit furnishes better services to the considerable group of students outlined above and hitherto a charge on existing units for instruction.

It should be repeated that the last word in all these matters will not be said immediately nor even by next fall nor next year. Something must be left to the future, for we are not writing on a clean slate. All we can do is to count upon the hearty co-operation of all concerned and that to the same degree in which it has been given before when the University has attempted a new task or made adjustments to enable it to perform an old one better.

The Committee on Administrative Reorganization has left for later consideration the form of the recognition to be given at the conclusion of a possible two years in the Junior College. It favors at least the granting of a certificate indicating perhaps somewhat specifically what has been achieved by the recipient.

The Director

The general ideas here developed were discussed with the Board of Regents at the last meeting before President Coffman left on his trip to the Orient and were heartily approved, and authority was given to find a director for the new unit.

The committee is happy in having selected Dr. Malcolm S. MacLean as the director of the Junior College of the University. He is known to many of you as a former student and a member of our staff. To the qualifications as teacher and student counselor that we knew when he was taking his degree here and teaching in the Department of English, he has added experience as vice-director of the Milwaukee Center of the University of Wisconsin, where he was especially active in developing the courses in industrial fields.

To this general statement the committee would like to add that wherever this plan, even in its most tentative form, has been explained during the year and a half we have had it under consideration, the response has been one of great interest and hearty approval. At various times we have invited in from other institutions men who might have something to contribute, and they have said, as our ideas were developed, that they thought they were carrying away more than they had given us. At one session we had as casual visitors the responsible executives of one of the great educational foundations. Their view was summarized when one of them said, "This looks like the way of salvation."

The committee does not offer it as a way of salvation but as a possible contribution to our constant effort to give some recognition to individual differences and needs, despite the overwhelming number of students with whom we have to deal.

Subsequent to the publication of this statement, the Board of Admissions to which it refers was created.

Open Letter on the Junior College

The following open letter concerning the Junior College was written by the president of the University and printed in the *Minnesota Daily* in March, 1932.

The Junior College was established by act of the Board of Regents, February 11, 1932. A director, Mr. Malcolm S. MacLean, was appointed and an especially attractive pro-

gram of instruction has been prepared with the help of many faculty members.

The administration of the Junior College has been considered by the various faculties of the university. The recommendations and points of view expressed by the faculties have been reviewed by a committee consisting of

Clyde H. Bailey	E. S. Osgood
Harl R. Douglass	R. M. West, <i>Recording Officer</i>
Dunham Jackson	C. M. Jackson, <i>Chairman</i>
S. C. Lind	

This committee was appointed to draw up plans governing the admission of students. Its report is now in my possession. The points of view represented by the various faculties and the report of the committee, make it clear that full and complete agreement cannot be reached without prolonged consideration of many questions relating to the work and administration of the Junior College. To delay the matters further will jeopardize, if not make impossible, the launching of the college this next year. That, so it seems to me, would be a mistake.

Furthermore, it is clear that many of the questions and problems that have been asked or raised can be disposed of only on the basis of experience. Doubtless some mistakes will be made, particularly at the outset, but these can be rectified as we proceed.

New students are applying for admission for the year 1932-33. It is important, therefore, that procedure governing registration be set up at once.

The following administrative agencies and procedures are herewith provided: (In setting up these agencies and procedures I have reconciled all the points presented in so far as that is possible at present).

1. All incoming students shall register in the University of Minnesota.

2. Students will, upon a proper showing of their credentials and such other information as the University may require, be assigned to the college of their choice.

3. There shall be created a Board of Admissions consisting of five members, including the chairman, three other appointed members, and a recording officer (registrar of the university) who shall serve ex-officio as member and secretary of the Board. The members shall be appointed annually.

The following Board of Admissions is appointed for the year 1932-33:

C. M. Jackson, *Chairman*

Harl R. Douglass

Clyde H. Bailey

W. T. Ryan

R. M. West

4. This Board shall have two duties, viz.:

- a. To have charge of the administration of entrance for all University students above secondary grade, including admission with advanced standing, in accordance with the requirements for admission as established by the Senate and the faculties of the various schools and colleges of the university.

(This means, among other things, that the Board of Admissions will not have power to modify the requirements for admission which any college faculty may prescribe. On the other hand, it will be given the power to deal with individual students in borderline or doubtful cases. Such cases shall be regarded as special cases and will be made the subject of special inquiry and investigation.)

b. To investigate problems relating to admission and to recommend to the university faculties, the Senate and the President as to methods for the improvement of the regulations concerning admission.

The Board of Admissions will be given a free hand to study any aspect of the problem. A close co-operation with the Committee on University Research is desirable, as this committee has the machinery for the study of such problems as will arise.

5. In the administration of admissions and the assignment of students, the Board of Admissions shall co-operate with the various schools and colleges of the University.

6. In case any controversial matters arise during the trial period of the Junior college in its relation to the other colleges of the university, the President of the university shall decide them.

7. For efficiency and economy of operation, the Board of Admissions is a centralized university board, not a representative college board. As it develops and reaches agreements with regard to procedures they shall be administered for the present through the Registrar's office. The appointment of a full-time Director of Admissions will be deferred for consideration until after the Board of Admissions has had time to study the various problems involved.

8. Inasmuch as new questions will now arise involving the transfer of students from one college to another within the university, the Board of Admissions is directed to study the matter at as early a date as possible and to make recommendations to the faculties concerned.

9. In cases of restricted registration (as in medicine, for example), the Board of Admissions shall determine eligibility for entrance and confer with the college concerned as to the selection of those to be admitted.

10. The Board of Admissions shall have power to call to its aid all agencies now in existence in the university dealing with the admission and the assignment of entering students. There shall be available for it the secondary school grades, the grades submitted for advanced standing, all letters of recommendation, the reports on the college entrance tests, the freshman English tests, physical ratings, and the like.

In establishing the Junior College it is highly important that certain things be kept in mind, viz.:

1. Students who are advised to register in the Junior College will be given such advice for sound educational reasons. It is not a college for incompetent students.

2. The Junior College is a new experiment, an adventure in the field of higher education. It is intended to provide a superior intellectual opportunity for a body of university students whose needs cannot now be adequately met by the existing organization of the university. It will succeed or fail in terms of its service to students. Its courses should be open to the most gifted student in the university. Any student should be privileged to elect membership in the Junior College.

There are certain things that the science of education has taught us, for example:

College ability is a highly variable quantity. The success of a student is determined, not by some arbitrary line or percentile ranking, but by his intellectual ability, his maturity, his previous experience and training, his emotional balance, the nature of the subject offered in the several colleges, the marking system in vogue in given de-

partments or colleges, and by the student's inclinations, interests, and desires. All these matters must be given due and careful consideration as we proceed with the inauguration of the Junior College.

May I bespeak the co-operation of every university teacher and officer in carrying out the provisions of the foregoing statement. Progress should be made—indeed the continuance or discontinuance of the Junior College should be determined solely on the basis of experience.

L. D. COFFMAN, President

Minnesota's Speech Clinic

The University of Minnesota established a Speech Clinic under the direction of Dr. Bryng Bryngelson. This is the outgrowth of work which was begun in the Department of Public Speaking nearly six years ago. The clinic offers three large services: (1) a service to students who are interested in speech education, i.e., in debate or public discussion; (2) a service to students who desire training in the directing and staging of plays; (3) a service to students who desire greater and more effective skill in the art of interpretations, i.e., oral reading.

It will be observed from the foregoing services that the Speech Clinic has not been established primarily for the purpose of correcting stammering or stuttering, although careful attention is being given to these problems. It is amazing how many students there are who have struggled through school handicapped by an abnormality of speech organs or by some form of stuttering. Not being able to communicate their ideas and feelings by means of the normal channel of articulation they have been forced to withdraw from social contacts, and as a result their personalities have been warped. They come to us with a deep-seated sensitivity toward their halting speech and possess such a feeling of insecurity that they are lacking faith not only in themselves but in society at large. The clinic is studying these cases with a view of finding means of enabling students so handicapped to renew their faith in themselves and in people. The zeal and earnestness with which they work is prompted by an overwhelming desire to be like other people.

The Speech Clinic has the co-operation of the University Health Service, the Departments of Otolaryngology, Psychology, Neurology, Pediatrics, and Sociology, so that the students who are registered in the Speech Clinic or who are assigned to it receive a thoroughgoing and comprehensive examination to determine what is needed in the way of speech correction. Graduates who have specialized in the Speech Clinic, many of them at least, are now teaching in the schools of the state where the work of the clinic will be multiplied many-fold.

Five-Year Course in Architecture

The four-year course in Architecture and Architectural Engineering has been abandoned and replaced by a five-year course in Architecture.

Architectural schools in general have long recognized that four normal years after college matriculation is too short a time for sufficiently broad training of candidates for the architectural profession. The profession itself has repeatedly urged its extension beyond that period. The records of the Association of Collegiate Schools of Architecture and of the American Institute of Architects contain frequent references to the matter. Twenty-eight of the fifty-two schools in the United States, and five of the six schools in Canada already have courses longer than four years. Four American and one Canadian school require six or more. A further discussion of this change may be found in the report of the College of Engineering and Architecture.

Helping Freshmen Choose Vocations

For a number of years the University has been co-operating with the Woman's Occupational Bureau in providing vocational guidance for women students. Some two or three years ago plans for the guidance of men students began to emerge. The importance of this type of work can scarcely be overestimated and yet, it must be admitted that most of the vocational guidance work now in existence is unsatisfactory to say the least. It has been based upon the personal opinion of those to whom the task of guiding has been assigned and upon the personal attributes and other qualities of so-called successful business men. It has involved little knowledge of the changes occurring in the vocational world and there has been no satisfactory, adequate battery of tests for the diagnosis and discovery of the mental capacities and abilities of individual students. The University will not ignore the value that may come from personal advice and experience. It is, nevertheless, through the Employment Stabilization Bureau, devising a diagnostic scheme which will afford vastly more knowledge of the capabilities and possibilities of individual students than it has ever possessed. In addition the various advisory and vocational guidance offices of the University are now being consolidated into a single university office with a view of co-ordinating the efforts of those who have been offering advice and of making the service more efficient than heretofore.

The time has come when dogmatism must be displaced with scientific effort and knowledge. No one knows with absolute finality that an individual should or should not enter a given vocation. But reasonable judgments can be reached, based upon a study of the aptitudes required for a vocation and upon the aptitudes which a college freshman possesses. In addition to that, reasonable judgments can be reached with regard to the qualities required for success in given fields of activity.

The need of vocational advice is emphasized by the fact that vocations have become highly specialized. There is far greater danger today than ever

before of thousands, if not millions, of our citizens developing routine types of minds because of this specialization. In addition to that the changes which are taking place in the vocational and industrial worlds occur with such rapidity that thousands of persons are being constantly displaced. This displacement is bad enough at any age but if it occurs after one has passed middle age, his chances for re-employment are greatly reduced. It, therefore, becomes of the very greatest importance that students shall be so trained as to increase their adaptability and that the choices which they make of their vocations shall be made only after a careful examination of the facts and in view of their intellectual possibilities.

Migration of Students

A subject of much importance, especially in the larger universities to which students transfer with advanced standing, is that of the migration of college students. A study of this subject has been made by Dean John B. Johnston, of the College of Science, Literature, and the Arts, who found that only 44 per cent of the students who have entered that college with advanced standing since 1922 have done satisfactory work. This statement he modifies, however, by saying that of those who came to Minnesota with marks above the average in the colleges they left, 68 per cent have done satisfactory work at Minnesota. Nevertheless, it is obvious that this group constitutes a problem element. Furthermore, the number of students who come to the University of Minnesota with advanced standing is increasing. To this group has been due a considerable part of the institution's recent growth.

Dean Johnston's study shows that many students who come ultimately to Minnesota have attended more than one other institution. This group does rather better than average work for transfer students, there having been, apparently, a selection as they passed through two institutions.

This study makes the further point, touched also in the current report of the Graduate School at Minnesota, that many students seek to enter graduate work who have no real flair for the fields into which it leads; who are, rather "enamored of college attendance."

The transfer students present a problem to instructors and to those persons charged with advising and counseling undergraduate students, as well. They are a group to which further careful consideration must seemingly be given.

College Sophomore Testing Program

There is widespread interest in the nation-wide program of testing college sophomores carried out in May, 1932, by the Advisory Committee on College Testing, of which Dean John B. Johnston of the College of Science, Literature, and the Arts, in the Uni-

versity of Minnesota, is chairman. These tests were intended, briefly, to show the extent to which two years in college had "taken effect" on sophomores, and also to indicate whether or not it would be worth while, in theory, for them to continue in the channels of formal education.

The report on these tests makes a pamphlet of 54 pages, from which I quote the following:

The differences among the 138 colleges whose sophomores participated in this program are very large indeed if the results of the English and general culture sections of the examination mean anything at all. While it is clear that the sophomore examination or any similar examination cannot remotely measure all of the desirable outcomes of two years in college, the experience of the last decade with objective tests of the sort here used, and our own studies reported later in this section, indicate conclusively that such test results are correlated positively with several of the expected outcomes of college and secondary education.

The English and general culture tests aggregate something over 1300 questions. On these 1300-odd questions, four of the 138 participating colleges achieved average scores which are more than one standard deviation above the national average; that is, more than one-half of the students in these colleges are in the highest fifteen per cent of the national group. In two of these colleges approximately three-fourths of the sophomores are in the highest fifteen per cent of the national group. At the other end of the scale there are half a dozen colleges whose averages are more than one standard deviation below the national average. In one or two of these institutions about eighty per cent of the sophomores are in the lowest fifteen per cent of the national group. So far as the functions measured by the English and general culture tests are concerned, this latter group of colleges has almost nothing in common with the three or four colleges at the high end of the scale. In one group of colleges more than ninety per cent of the sophomores are distinctly above the national average; in the other, more than ninety per cent are below the national average.

It is to be hoped that these programs of testing students, in high schools as well as in colleges, will be continued for the sake of the clear light they seem to be throwing on educational efficiency and on the differences between individuals and between teaching institutions.

Aptitude Tests for College Students

To an increasing extent the educational world is seeking to prevent the waste of time and money by students and universities by seeking to place students in lines of study for which they are adapted and in which they have the abilities to achieve success. To this end aptitude tests have been evolved. Many different workers have produced tests, and equally varied are the aptitudes and fields of work for which these tests are intended to provide ratings.

A summarization of the periodical literature, the

tests actually evolved and used to determine different aptitudes, and of the effectiveness of these tests has been made at the University of Minnesota by a research worker in the field of education, Dr. Lucien B. Kinney. Those who have occasion to seek tests for various aptitudes, or who need guidance in the use and application of such tests will be served by the results of Dr. Kinney's work.

Minnesota International Relations Project

The Rotary Club of Minneapolis provided \$5,000 for the establishment of the International Relations Project for the year 1931-32. Mr. Cyrus P. Barnum was placed in charge of this work. The purpose of the project was to furnish students in general with some understanding of the problems of other countries, and in addition, to furnish the students of foreign countries registered at the University with a better knowledge of American life and conditions. In the main the director followed three lines of activity: First, he maintained a friendly, advisory relationship to the foreign students, of whom there were over 400 registered in the University. These students come from every part of the earth—Australia, India, Sweden, China, South Africa, Switzerland, Japan, Brazil, Germany, the Philippines, Russia, Denmark, Mexico, in fact from forty-one nations. These students return to their own countries eventually where for the most part they become influential leaders. It is not only sound from the standpoint of education but important in the interest of universal peace that friendly relations be established with such students. A favorable experience in this country bears fruit in a favorable attitude at home, an attitude that may effect political and economic relations with this country in a mutually profitable way.

The director's second responsibility is to all students, American as well as foreign, by co-operating with those organizations which have international elements in their programs, by enlarging the scope and influence of those programs, by discovering new groups that will incorporate international programs into their plans. Some of these organizations are the Young Men's and Young Women's Christian Associations, the Cosmopolitan Club, the various international groups such as the Filipinos, Chinese, and Japanese, the Forum, and the dormitory groups.

And the final purpose of the International Relations Project is to encourage and assist students in securing that information which they need for the discharge of their citizenship responsibilities. This is a high purpose, one to which insufficient attention has been given in the past.

The International Relations Project under the guidance of Mr. Barnum accomplished more than could reasonably be expected of it. The Rotary Club of Minneapolis, however, in view of the financial stringency, has found it impossible to continue the project. This is greatly to be regretted and it is

hoped that when conditions become normal again the Rotary Club or some other organization may find it possible to supply the money for the rehabilitation of the work.

Deanship of Medical Sciences

Two years ago the University recorded the loss of Dr. Richard E. Scammon to the University of Chicago where he accepted the deanship of the biological sciences. We are happy to report the return of Dr. Scammon to the University of Minnesota to accept a new major position created by the Board of Regents, this position being the deanship of the medical sciences. The creation of this deanship is in harmony with current tendencies in medical education. More and more men are learning that the medical sciences must have the co-operation of other sciences. Curricula necessary for the training of practitioners in the medical fields call for offerings in fields that did not exist fifteen years ago. Furthermore the most significant researches lie in the overlapping areas between related fields of learning to such an extent that today the researcher in medicine must have the support and assistance of the chemist, botanist, physicist, psychologist, and sociologist. Dr. Scammon's chief responsibilities are concerned with these educational relationships, the mapping out of educational programs, the co-ordination of the various sciences that may or should contribute to the training of doctors in this new era.

Dr. Scammon does not displace Dean Lyon, who continues as head of the Medical School. The plan, however, of having a dean of the medical sciences and dean of the Medical School has permitted some division of functions and responsibilities in the administration of the Medical Department.

Co-operation with the Alumni

The leadership of the General Alumni Association has continued to be of distinguished order. Mr. Edgar F. Zelle who rendered notable service to the University was succeeded by Dr. William F. Braasch of the Mayo Clinic. Dr. Braasch brought a broad knowledge of affairs and deep interest in the work of the University to his office. He secured the co-operation of the various alumni units and stimulated increased support for the University.

Upon the resignation of Dr. Braasch, Mr. George R. Martin, vice-president of the Great Northern Railway, was elected president of the General Alumni Association. Mr. Martin's advice has been invaluable. He has given of his time and strength to the University whenever called upon; as a matter of fact, no one could possibly have devoted himself with greater diligence and faithfulness to any public cause than he has to university interests.

In discussing the affairs of the General Alumni Association, one cannot if he would overlook the loyal, faithful, and able services of Mr. E. B. Pierce, executive secretary.

Perhaps Mr. Pierce's most distinguished contribution to the University during the last two years was the creation of an informal advisory committee consisting of about 135 persons distributed over the state. The members of this committee have come to the University twice a year at their own expense to consider the problems of the University.

Honoring of Distinguished Alumni

The General Alumni Association two years ago introduced the practice of honoring some member of its association for distinguished service. The first person so honored was Mr. Fred B. Snyder, of the Class of '81. The scroll presented to him bore the following inscription:

The General Alumni Association of the University of Minnesota presents this scroll to the Honorable Fred B. Snyder, '81, President of the Board of Regents, on the fiftieth anniversary of his graduation from the University.

In this half century the qualities of mind and character which he has exemplified and the unselfish services which he has rendered to the city, to the University and to the state have given a finer meaning to citizenship in Minnesota and added new honor to the title of alumnus of its University.

The General Alumni Association records its gratitude for his continuing and undiminished interest in this Association and in every forward movement within the University and the commonwealth.

The Association wishes for him many more happy years and hails him this day as the first among alumni in service to our alma mater.

Presented by direction of the General Alumni Association this eighth day of June in the year of our Lord, one thousand nine hundred and thirty-one and of the University the sixty-third.

GEORGE R. MARTIN, *President*
E. B. PIERCE, *Secretary*

This year, at the June 6 meeting, the Alumni Association paid its high respects to Professor-Emeritus Henry F. Nachtrieb, of the Class of '82, and presented him with a scroll in recognition of his services to the University and to the General Alumni Association, which bore the following inscription:

The General Alumni Association of the University of Minnesota presents this scroll to Henry F. Nachtrieb, '82, first president of the organization, on the fiftieth anniversary of his graduation from the University.

His capable leadership from 1904 to 1916 and his unselfish service to the university and to the alumni association during those difficult pioneer years have won the enduring gratitude, admiration, and respect of the entire alumni body.

The Board of Directors wishes for him many more happy years and hails him this day as the honored father and president emeritus of the Alumni Association.

By direction of the General Alumni Association this sixth day of June in the year of our Lord one thousand nine hundred thirty-two and of the University the sixty-fourth.

GEORGE R. MARTIN, *President*
E. B. PIERCE, *Secretary*

Memorial of Old Main

The Class of 1892 presented a memorial of more than passing interest to the University. It located a plaque marking the entrance to the Old Main, the first building on the campus, on the site formerly occupied by Old Main. The plaque, facing the knoll, rests on a boulder of biolite granite near the sidewalk in front of Shevelin Hall. It has been estimated that the boulder has been on the campus for at least 30,000 years, having been deposited by a continental glacier on the site of the present Anatomy Building. The rock was unearthed 20 years ago at the time of the excavations for the building. On the one side of the rock there has been reproduced in bronze a complete and accurate likeness of Old Main. The memorial was presented to the University on Commencement Day, June 6, 1932. Mr. E. J. Kraft presided. The honor of unveiling the memorial fell to two members of the Class of 1892 who have missed only one annual class reunion since their graduation forty years ago, Florence Rose and Everett B. Kirk.

Founders' Day

Sometime since, a special committee consisting of members of the faculty, regents, and alumni, decided that the University should honor three groups of persons, namely:

1. *Founders of the University*—those whose efforts in the early days actually resulted in the establishment of the institution.

2. *Builders of the Name*—those whose rare administrative or teaching ability, scientific or scholastic achievement, or inspirational leadership within the institution itself have brought honor and distinction to the University.

3. *Benefactors*—those whose generous contributions to the material welfare of the University have enabled it to render services to its students and to the commonwealth that otherwise would have been impossible.

To inaugurate this plan a rather remarkably successful meeting, honoring the founders of the University, was held in the Cyrus Northrop Memorial Auditorium on April 21, 1932. The Honorable Fred B. Snyder, presiding officer of the Board of Regents, spoke on "The Beginning of the University," and the president of the University named and described the individual founders. The names of those who were thus honored have been cut upon the central stone panels in the foyer of the auditorium.

"The Beginning of the University"

Address by Fred B. Snyder '81, Vice-President of the Board of Regents

WE have met today to honor the founders of the University. It seems altogether fitting that we should do so and in some permanent manner perpetuate their names.

It has not been allotted to me to name the founders. My part is to set up on the stage of your imagination

the scenery depicting the time in which they lived and the conditions under which they acted, leaving to President Coffman the task to fill in the actors, mention their names and identify them with the parts they played as founders.

The story begins with a quotation from Neill's *History of Minnesota*: "At eve, on the ninth of April, amid terrific peals of thunder and torrents of rain, the weekly steam-packet, the first to force its way through the icy barrier of Lake Pepin, rounded the rocky point, whistling loud and long, as if the bearer of glad tidings. Before she was safely moored to the landing, the shouts of the excited villagers announced that there was a Territory of Minnesota, and that St. Paul was the seat of government."

The territory extended from Wisconsin to the Missouri River. It was practically a wilderness. All that portion west of the Mississippi, from Iowa to Lake Itasca, was unceded Indian land. There was no connection by rail or wire with the outside world. Mail went out, on horseback or by steamboat, once a week. Trade with the far west was carried on by two wheeled red-river carts, made all of wood and a strip of Shaganappy raw hide, drawn by a single ox, and carrying half a ton. As no axle grease was used the creaking of axles could be heard a mile. St. Paul had a growing population of 250 and was "just emerging from a collection of Indian whiskey shops, and birch-roofed cabins of half-breed voyageurs." This was in April, 1849.

In May the new Governor arrived. He came from Pennsylvania. He was a man of "large perceptive power and of much grasp of intellect. He diligently and ably guided the setting up of the governmental machinery, and at the second session of the Legislature, held in 1851, advocated the establishment of a university and recommended a memorial resolution to Congress asking for an endowment of 100,000 acres of public land. He is one of the founders.

The subject was assigned to the Committee on Education, the Chairman of which was the representative from St. Anthony, a man who afterwards served as the first Treasurer of the University, and one of its staunch defenders later in the Constitutional Convention. He, assisted, so one historian affirms, by a very learned, scholarly man, a Minister of the Gospel, later the first Chancellor of the University, prepared a bill for an Act to Establish the University of Minnesota. The bill became a law. This law, without any amendments since its passage in 1851, was in 1928 declared to be the present Charter of the University by the Supreme Court of the State. These two men are founders.

At the same session a memorial was sent to Congress asking for an endowment of 100,000 acres of public lands for the University. There was at that time representing the Territory in Congress a gentleman who came from Michigan—"a man of splendid athletic figure—a man of skill and strength in the manly art of self defense—a calm, steady man of imposing demeanor." He secured the enactment of a law making a grant of 46,000 acres to the University. Subsequently another man of sterling worth from Vermont "fairly well educated, graceful and engaging in person, . . . Alert, ambitious, already experienced," while territorial representative in Congress, with the aid of Hon. Stephen A. Douglas, secured the passage of the Minnesota Enabling Act in which there was granted to the embryonic State, 46,000 acres in addition to the land already granted. He was later elected the first United States Senator from Minnesota. As a result of their efforts the University re-

ceived the larger part of its present permanent endowment fund. They are founders.

In the meantime the University was a struggling entity. The Regents were organized. The outstanding pioneers of the State made up the Board. The Board accepted the gift of a site. It was the ground where the old Exposition Building now stands on the easterly crest of the river bank. The Chairman of the Building Committee was a man from Kentucky, afterwards Governor of the State, than whom no citizen more "ardently loved justice and freedom." As no funds had been granted by the State to the University, he, as Chairman of the Building Committee, solicited and raised funds to the amount of \$2,500.00 with which the first University building was erected. In December, 1850 it was opened as a preparatory school with forty students; but it soon developed that the site selected was not an appropriate one for a future great university. The present site, including the oak knoll, was then selected.

Plans for a new building were prepared and the Board resolved to build one wing of the building. For the purpose of raising funds it was resolved to mortgage the new building and the campus, subject to a purchase money mortgage of \$3,000.00 for the sum of \$15,000.00 bearing interest at 12%. To supplement these funds the desirable timber on lands along the Rum River was sold on a stumpage basis, payments to be made when the logs came down in the spring. A contract was then let to build the wing for \$49,600.00. This was the situation when the Constitutional Convention met in 1857. The Chairman of its Committee on Education embodied in the Committee's report the paragraph which is now found in the Constitution of the State perpetuating the location of the University for all time at or near the Falls of St. Anthony, and which established the Regents of the University as a body corporate, coordinate, with the Executive, Legislative and Judicial Departments. The inclusion of the paragraph in the draft of the Constitution was stubbornly resisted; some members claiming that there should be several universities in the state; others that the endowment was ample for more than one; and still others that there was no good reason why the location should be fixed for all time at St. Anthony Falls. And here, again, we find the gentleman from Michigan standing in his place in the defense of the University and declaring that the establishment of the University as a "State institution is an entirely original affair and that it is proposed to make it such by constitutional provision." The Chairman mentioned is a founder.

Then came the panic of 1857. The Regents were hopelessly involved. The Rum River went dry and the logs did not come down. In 1858 the wing was completed but its doors were not opened for ten years. Commerce was paralyzed, paper money became worthless over night, values disappeared, people struggled for a bare livelihood, and exorbitant rates of interest were eating the heart out of the University. The Regents were utterly discouraged. Then came the Civil War and the Indian outbreak scourging the land with massacre. The University had reached its Gethsemane.

A few years later the Governor of the State recommended that the lands of the University should be deeded to its creditors in satisfaction of its indebtedness amounting to \$95,000.00. In the legislature it was suggested that the building, which was boarded up, should be used for housing the insane. Another man now took an interest in the Uni-

versity. To carry out his plans for the rescue of the institution he offered himself as a candidate for the State Senate and was elected. A legislative committee, of which he was a member, visited the University. They found it occupied by a person who claimed to be looking after it. One end was boarded up. In the basement hay and turkeys were kept, and the floor of the main hall was nearly destroyed from the effect of splitting wood. This was in 1864. The committee reported and asked that three special regents should be elected with power to use up to 14,000 acres of land to pay, if possible, the debts of the University. The Senator from St. Anthony, after large sacrifice of time and money in traveling about the State examining and appraising land, and in trips searching out and negotiating with creditors, reported to the Legislature in 1867 that the last claim had been paid by the sale of less than 15,000 acres of land. This man afterwards became thrice Governor of the State and while in office caused legislation wiping off the stain of repudiation on the escutcheon of the State. He was instrumental in bringing about the merger of the State Agricultural College located near Glencoe, Minnesota, with the University, and at a later day maintained the consolidation against a bitter attack in the Legislature to dismember the University. He also gave to the University one of its most stately buildings at a time when it was urgently needed, and there were no funds available for an appropriation. But most of all was his continued service as Regent for the period of thirty-three years. He is known as the Father of the University. He is the last of the founders.

President Coffman will fill in this background with the names of the founders, who made possible all the splendor of the institution today.

I cannot close without the inevitable postscript in which so often, as in this case, a precious message is sent. Most, if not all, of the founders brought with them to this wilderness their wives who left home, parents and girlhood friends, to brave the future with their husbands. They brought the high ideals of womanly virtue, and the culture of the east into this primeval land. They shared in the struggles and discouragements of the times. They were true helpmates. They reared families and left their imprint for good on the State. Their names may not be carved in stone in this building but, hoping there may be something of psychic contact with the departed, let us rise in our places and in thought, silently salute them.

"The Founders of the University"

Address by President Lotus D. Coffman

REGENT SNYDER has told you why we assemble to-day in convocation. It is to acknowledge our debt and to pay our respects to the founders of the University. It has not been easy to choose those whose names we would honor. A committee of faculty and alumni has worked for two years; its task has been most difficult. It has sifted the history of territorial days for the contributions which men may have made to the founding of the University. It found that there were men in those days who said that a university was not necessary and that it would be too expensive for the people to maintain—their names are scarcely recorded in the pages of colonial history. It found that there were those who thought of the university in terms of its political possibilities rather than as a free and vigorous institution serving a free and independent people—their

names do not appear upon the list we shall present today.

The committee found, as it delved into the matter, that the real founders were the men in whose veins coursed the blood of the real pioneers,—vigorous souls, courageous persons, adventurous spirits. With nothing in their pockets but with faces set to the future, they said there shall be a university established and maintained here in which there shall be taught the arts and sciences, agriculture, medicine, and the theory and art of teaching. They saw that these things were necessary for the life and comfort of the people who may reside here as well as for their material progress.

Poor as we think we are today, distressed as we may be over the world-wide economic depression and particularly as it may affect us, we are nevertheless ten million times richer in every way than were those sturdy pioneers who on faith and hope and courage laid the foundations, intellectual and otherwise, for the blessings we enjoy. They were optimists. Their creed was "I can" and "I will."

It takes time for us to know who make the most significant contributions to human welfare. Comparatively small matters obscure our vision and dull our insight when we are in close proximity to a thing. Over the long stretches of time, trivialities of human nature fall by the way, insignificant things are lost sight of, little characters become smaller, selfish natures receive their proper condemnation, the uninspired critics of progress pass in quick succession into the limbo of the unknown and forgotten. But those who sacrifice to advance civilization, who work for public good rather than for self-interest, who venture to stand for the things that make life worth living, who mould themselves into the life of the community and who strengthen the humanitarian and educational agencies—these are the ones who gain increasing recognition with the passage of time. None can tell who there is among us today who will be regarded as a statesman, a leader or a saint, tomorrow. Nor can any one tell who there is among us today whose name or names will be written deep in the history of this University fifty years from now. Of this we may be reasonably certain:

It will be someone who has sought by every proper means to maintain a university of the greatest usefulness, a university that bears on its face and exemplifies in its actions mankind's historic and traditional confidence in learning and an abiding contemporary faith in its value in these pressing hours.

Made of such stuff, endowed with such faith were those whom we are assembled to honor. May their spirits linger about the campus and throughout the halls of the University and may the presence of their names now engraved in stone in the foyer of the Auditorium serve to strengthen our hands and our hearts and those who follow after us, to be correspondingly fruitful and diligent and bold in providing educational advantages for our children as superior to those they were able to provide for their children as our times are to theirs. Thus we may repay part of the debt we owe them.

Alexander Ramsey, the first governor of Minnesota Territory, recommended in his message of January, 1851, that a university be established and that the legislature memorialize Congress for a land grant for the prospective institution. The legislature drew up such a memorial and as a result the grant of 1851 was made. Governor Ramsey was a member of the board of regents appointed by the legislature during the same session, and he was president

of the board that was appointed under the charter of 1860. In 1869, when he was a United States senator, he introduced a "bill to allow" the second grant of land for the university. As a result of his efforts the bill was passed by Congress.

Alexander Ramsey was a native of Pennsylvania. In 1849, after service as a Pennsylvania congressman, he was appointed Governor of Minnesota Territory, a position that he held for the first four years of Minnesota's political existence. He was one of the negotiators of the Indian treaties of 1851, which opened the way for settlement west of the Mississippi. In 1855 Ramsey was mayor of St. Paul, and it may be noted that Ramsey County is named in his honor. He was governor of the state from 1860 to 1863; he served in the United States senate from 1863 to 1875; and he was secretary of war in President Hayes' cabinet from 1879 to 1881. Throughout his long career he was deeply interested in the advancement of Minnesota's educational and cultural interests.

William Rainey Marshall was a member of the first board of regents of 1851, its librarian, and a member of the committee that raised the money for the institution's first building. As governor he played a prominent part in the passage of the reorganization bill of 1868 and in his message to the legislature strongly recommended the passage of this bill to reorganize the university and to "establish an Agricultural College therein." Under the charter of 1868 Mr. Marshall became *ex-officio* a member of the board of regents. He went to Washington in 1868 to "prosecute the claim to the second land grant" and drew up a petition that was presented to the Senate in April of that year.

Marshall was a prominent figure in the political and cultural life of Minnesota. He was president of the preliminary organization set up in St. Anthony in 1855 for the establishment of the Republican party in the Territory; he served as governor from 1868 to 1870; he was railroad commissioner from 1876 to 1882; and he took an active part in the Minnesota Historical Society as its president in 1868 and its secretary from 1893 to 1895. He was identified in numerous ways with the pioneer history of Minneapolis and St. Paul. He surveyed and platted the town of St. Anthony, was a pioneer merchant in St. Paul, and founded the *St. Paul Press*. Marshall County is named in his honor.

John Wesley North, as chairman of the house committee on schools in the territorial legislature in 1851, is said to have drawn up the bill for the establishment of the university passed in that year. He was treasurer of the board of regents appointed under this act. As a member and presiding officer of the Republican wing of the constitutional convention of 1857, he fought for a permanent location for the university and for a unified institution. At that time he claimed the credit for the decision to locate the university at St. Anthony, a provision of the act of 1851.

North was a Yankee with an astonishing flair for cultural, legal, and economic pioneering, and his career has a transcontinental sweep. He was a graduate of Wesleyan University, he reached Minnesota in 1849, and six years later was one of the founders of the Republican party in the territory. In the same year he built a mill on the Cannon River and in 1856 he took a leading part in the founding of a Minnesota city that was named Northfield in his honor. President Lincoln appointed him to the office

of surveyor general of Nevada Territory in 1861. North later presided over the constitutional convention of Nevada and then became one of the judges of the supreme court of Nevada. Still later he was a pioneer fruit grower in California and became a United States judge in that state.

Henry Hastings Sibley, as territorial delegate to Congress, secured the first land grant for the university in February, 1851. He was a member of the first board of regents. As president of the Democratic wing of the constitutional convention in 1857, he used his influence to secure provision in the constitution for the university, "to make one great institution in the State for University purposes," and to "secure to the University of Minnesota the lands which Congress has already granted." Sibley was appointed to the board of regents after the reorganization of 1868 and served until 1891. He was president of the board for fifteen years, from 1876 to 1891.

Fifteen years before the creation of Minnesota, Sibley, the son of Judge Solomon Sibley of Detroit, arrived in Minnesota to take charge of the American Fur Company's business in this region. His Minnesota career spanned the period from 1834 to 1891, and in many of the movements and activities that make up the crowded history of that half century in Minnesota's life, Sibley played a prominent part. As a delegate to Congress from the portion of Wisconsin Territory that was not included in the state of Wisconsin, he secured the passage of the act creating Minnesota Territory. He served that Territory as congressional delegate from 1849 to 1853. In 1858 he became the first governor of the state of Minnesota. In 1862 he was made commander of the white forces that quelled the Sioux uprising of that year. The interest of this pioneer of culture in the university was matched by his interest in the Minnesota Historical Society, of which he was president from 1879 to 1891.

Henry Mower Rice was a member of the territorial board of regents of 1851. In 1856, as delegate to Congress from Minnesota Territory, he introduced the bill for the enabling act for the state of Minnesota. This contained a provision for "seventy-two sections of land for the use and support of a *state* university, to be selected by the governor of the state," notwithstanding the fact that a similar grant had been made to the territory for a university.

Rice, a native of Vermont, came to Minnesota in 1839 as a pioneer fur-trader. He served two terms as Minnesota's territorial delegate to Congress and was influential in securing in 1854 the extension of the right of pre-emption in Minnesota to unsurveyed public lands. He was one of the first two United States senators from Minnesota and served in the Senate from 1868 to 1863. His activities were many and varied, including those of philanthropist, for he donated many lots to churches and public institutions. Rice Park in St. Paul and Rice County are named in his honor.

Dr. Alfred Elisha Ames was chairman of the committee on school funds, education, and science in the Democratic wing of the state constitutional convention of 1857. He was responsible for the incorporation in the constitution of a clause that fixed the location of the university and provided that it receive all past and future grants of land. In one of the debates he said: "It was necessary to incorporate something into the constitution that would secure to the University of Minnesota the liberal donation made by Congress for that purpose."

It is of interest to note that Dr. Ames was a promi-

nent citizen of Minnesota in other respects. He was one of the pioneer physicians in the town of St. Anthony and during part of 1852 held the position of surgeon at Fort Snelling. In 1854 he was elected to the office of probate judge. On January 4, 1856, he drafted a bill for the incorporation of the village of Minneapolis, which later became a law; and in April, 1857, he was appointed postmaster of Minneapolis.

Edward Duffield Neill was appointed chancellor of the university in 1858. He prepared the reorganization bill that was passed by the legislature in 1860 and was elected chancellor by the board of regents appointed under this act. At the same time he became *ex-officio* superintendent of public instruction. Dr. Neill resigned as chancellor in February, 1861. He shortly withdrew his resignation, but during the following summer he left to become chaplain of the First Minnesota Volunteer Infantry.

Dr. Neill made other noteworthy contributions to his state and country. He came to Minnesota in 1849 as a pioneer Presbyterian minister and was throughout his career a zealous churchman. He was secretary of the Minnesota Historical Society from 1851 to 1863 and wrote numerous historical treatises. After the conclusion of his Civil War chaplainship in 1864, he became one of President Lincoln's private secretaries. For three years he was United States consul at Dublin. He was founder of Macalester College in St. Paul, and from 1884 to 1893 he was a professor of history, literature, and political economy in that institution.

John Sargent Pillsbury was appointed a member of the board of regents in November, 1863. As one of the three "Sole Regents" appointed under the act of 1864, he helped to free the university of its financial embarrassments. The triumvirate reported to the legislature in 1867 the discharge of most of the university's debts, "leaving intact the campus and buildings and some 32,000 acres of land in the Territorial grant." The act of 1868 for the reorganization of the university and the establishment of an agricultural college was prepared "at the suggestion and by the aid" of Pillsbury and by him it was introduced into the state senate. Under the new charter of 1868 Pillsbury was again appointed regent and was made president of the board.

The catalogue of John S. Pillsbury's contributions as a founder is merely an introduction to a life-time of work for this institution. He served continuously as regent from 1863 to 1895, then was made regent for life, and on his death in 1901 a period of thirty-eight years of service on the board was brought to an end. It should be noted that through his influence in the state government, backed by his generous gift of Pillsbury Hall as a science building, he made secure and permanent the administrative unity of the university. Pillsbury is deservedly known as the "father of the university" and it is fitting that his statue, erected in 1900, stands at the heart of the campus.

Honorary Degrees

Three honorary degrees were conferred during the past biennium. The recipients of the doctor of laws degree at the June 1931 commencement were Dr. George E. Vincent, former president of the University of Minnesota and the Hon. Frank B. Kellogg, judge of the Permanent Court of International Justice and former secretary of state. The wording of the degrees is as follows:

University of Minnesota

Because of his distinctive contribution to the advancement of human welfare, through international understandings, and his significant achievements as a leader of public thought and a guide of public action—

The Regents of the University of Minnesota, on recommendation of the faculties, confer upon

Frank Billings Kellogg

the degree of

Doctor of Laws, honoris causa
with all of the rights and privileges
belonging to that degree.

University of Minnesota

Upon—

George Edgar Vincent

an educational statesman who gave character to the life of this institution,
a creative pioneer who developed fields of usefulness for a new type of beneficence,
an embodiment of the ideal of great talents devoted to public service,
The Regents of the University of Minnesota, on recommendation of the faculties, bestow the degree of

Doctor of Laws, honoris causa
with all the rights and privileges belonging to that degree.

At the June, 1932, commencement the University of Minnesota conferred its fourth honorary degree. It was the first ever to have been given to a woman by the institution. The recipient of the honorary master of arts degree was the distinguished alumna, Miss Gratia Countryman, Minneapolis librarian.

The wording of the degree is as follows:

To devote a life to unselfish public service, to be an evangel of education for all ages, to use books to unlock the hidden resources of youth, to use them to instruct maturity, and to provide companionship for old age, thus bringing honor and distinction upon the commonwealth and enlightenment of its citizens, and with no thought of personal gain,—for these reasons, Gratia Countryman, the University of Minnesota, by action of the entire Administration and of the Board of Regents, confers upon you the degree of Master of Arts, with all of the rights, duties and privileges which pertain to that degree here and elsewhere.

Special Conferences and Symposia

Lectures, demonstrations, and conferences, of special interest to science, scholarship, and public service were presented during the biennium. Continuing the practice which was established in the 1929 Summer Session, the following symposia were conducted in July, 1930:

A Symposium on the Kidney in Health and Disease was presented by the members of the faculty of the Medical School, together with outstanding specialists and research workers of this country and Europe. The topic included the anatomy, physiology, pathology, and the medical and surgical aspects of the kidney. Speakers presented the latest work on all phases of kidney structure and function, both normal and abnormal. Those in attendance came from all parts of the United States, from Canada, and from Europe.

A Conference on Problems of Legal Administration was held on July 8 and 9, under the auspices of the members of the faculty of the Law School. It assembled in Duluth, Minnesota, in connection with the annual meeting of the State Bar Association. The conference included a discussion of judicial administration in its various phases with reference both to trial and to appellate procedure. Speakers from outside Minnesota were men having experience in devising plans of court organization, rules of procedure, and those who had made a special study of the particular phases of administration of the law.

A Conference on Governmental Relationships was conducted at the University, July 15 to 18, 1930. Relationships in law enforcement in the administration of public utilities, in public finance and in public health administration were discussed. The program included a series of open meetings at which prominent speakers presented problems in general survey. Meetings were supplemented by informal round table sessions which were open to the public with discussion and exchanges of opinion limited to invited guests.

A Symposium on the Tariff and the Northwest was offered, for one day only, on July 18, 1930. The impartially conducted discussion of the tariff was presented by prominent advocates of the tariff as well as by outstanding opponents of the tariff. The symposium was sponsored by the School of Business Administration. Mr. John E. Casey, president of the Minnesota Editorial Association was invited to serve as temporary chairman of the meeting.

Conference on Problems of Budgetary Control in Business. On October 24, 1930, a conference on the subject of problems of budgetary control in business was conducted by the School of Business Administration in co-operation with three accounting associations—the Minnesota Association of Public Accountants, the Minnesota Society of Certified Public Accountants, the Twin City Chapter of the National Association of Cost Accountants. Executives of the principal business concerns of the state were invited to attend. The subjects considered included, the Evolution of the Budgetary Control Movement in Business; Budgeting as a Means of Internal Control; Budgeting, Production and Merchandising Policies; the Executive and the Budget; the Budget in Price Setting and the Marketing Plan; Operating a Budget with a Limited Staff Organization. A discussion of each one of these topics was opened by a specialist in the field. This conference afforded a means of extending information by the School of Business Administration to some two hundred fifty representatives of the business interests of the state.

During the summer of 1931 the following special programs were offered:

A Symposium on the Foundations of Educational Thinking. The lectures covered those phases of the biological, psychological, and mathematical sciences related to education and provided a broad basis of valuable

material to those having to deal with educational matters in a fundamental manner. The lectures were open to graduate students and to advanced undergraduate students. Instructors of national renown from other universities, as well as leaders from our own staff presented the lectures. This project was so enthusiastically received that it was repeated in the Summer Session of 1932.

A Conference on Education for the Federal Service was conducted in co-operation with the United States Civil Service Commission, the Interstate Commerce Commission, the Federal Trade Commission, the United States Department of Commerce, and the Political Science Association. This five-day conference was planned to consider relationships between universities and the Federal Government in establishing standards for entrance into the technical, professional, and administrative branches of the Federal Government. Invited guests included officers from the United States Government and from the colleges and universities concerned with the problem of training for the public service.

A Round Table in Dramatic Arts. During the Summer Sessions of 1929 and 1930 there was offered for the first time at the University a special Fine Arts Symposium, dealing primarily with the graphic and plastic arts. Continuing the fine arts program in 1931, attention was focussed upon the drama. This project was designed to meet the needs of an expressed interest on the part of high school and college teachers in effective school dramatics. An effort was made, through six weeks of intensive study and experiment, to supplement existing knowledge of ways and means for staging and stimulating successful high school and college productions. As a part of the laboratory work and as a supplement to the lectures and conferences, three major productions—one musical and two dramatic—were staged in the Cyrus Northrop Memorial Auditorium. Guest stars of national reputation were invited to take part in the productions with the students.

Special lectures in mathematics. Preliminary to the annual meeting of the American Mathematical Association which was held at the University of Minnesota, September 7 to 11, 1931, an unusually attractive program of special courses in mathematics and related subjects was presented by Dr. R. A. Fisher, chief statistician at the Rothamsted Experimental Station, Harpenden, England, and by Professor Griffith C. Evans, professor of pure mathematics at the Rice Institute.

A Conference on Unemployment Relief and Stabilization, under the auspices of the Employment Stabilization Research Institute, was conducted on November 17, 18, and 19, 1931. The purpose of the conference was to consider four phases of employment: (1) the administrative problems of unemployment relief with particular reference to the conditions prevailing in the state of Minnesota at that time; (2) stabilization and unemployment reserves of industrial enterprises; (3) the relation of individual plant problems to stabilization programs; (4) the conduct of public employment exchanges in periods of depression. Each of these topics was considered in detail by representatives from outside who had received recognition for the work which they are doing in their local communities. The formal papers presented by outside persons were supplemented by contributions from business men, labor leaders, social workers, and other civic leaders of the state.

A Symposium in Music was presented as the project in fine arts during the first term of the 1932 Summer Session. Under the auspices of the Department of Music,

speakers of national reputation in the various phases of music were invited to deliver series of lectures and demonstrations.

Special lectures in parliamentary law. One of the features of the 1932 Summer Session was a series of lectures in parliamentary law, conducted for six weeks by the Honorable Edward Welles Hawley. The course consisted of study of the fundamental or underlying principles of parliamentary procedure. It was open to all Summer Session students.

In addition to the lecturers who were invited to the University to deliver the weekly convocation addresses, national and international leaders in many fields were brought to the University to deliver one or more afternoon and evening public lectures and to conduct informal conferences with students and faculty members. It has been felt that these conferences have been most stimulating and effective. Some idea of the scope of these programs may be gained from the list of lecturers which follows:

1930-31

Fall Quarter

- October 8: Professor Vera Sanford, Department of Mathematics, Western Reserve University
- October 10: "AE" George Russell, Irish Poet
- October 17, 21: Dr. Carl Becker, Former Minister of Education in Germany
- October 22: Vincente Villamin, Philippine Publicist
- October 24: M. Auguste Desclos, Associate Director of Office National des Universités et Écoles Françaises. Lecturer on French Art and Education
- October 28 to November 1: Hjalmar Schacht, President, Reichsbank, Germany
- November 19, 20: Sir Herbert Ames, Former Treasurer, League of Nations
- November 19, 20: Professor James T. Shotwell, Columbia University. Head of Carnegie Endowment for International Peace
- November 30: Dr. F. P. Keppel, President, Carnegie Foundation
- November 31: David Friday, Economist, Lecturer, and Writer
- December 2: Claire Leighton, Artist and Traveler
- December 3, 5: Maud Scheerer, Dramatic Reader and Lecturer
- December 4, 5: Herbert Brookes, Commissioner-General for the Commonwealth of Australia in the United States
- December 8, 9: M. P. Nilsson, Professor of Classical Archeology and Ancient History at the University of Lund

Winter Quarter

- January 23, 24: DeWolf Hopper, Guest Star in student production of "Mikado"
- January 29: Charles S. Johnson, Eminent Negro Social Scientist
- February 2, 3: Professor E. Sapir, Archeologist, University of Chicago
- February 10: Frank Lloyd Wright, Architect
- February 11: Gloria Hollister, Naturalist and Zoologist
- February 26: H. N. Brailsford, English Author and Journalist

February 27: Norman Thomas, Director of League for Industrial Democracy, Socialist Candidate for President
 March 2, 6: Ernest Bateman, Sr., Chemist, Forest Products Laboratory, Madison, Wisconsin
 March 7: Tony Sarg's "Marionettes"
 March 10: Lee Simonson, Scenic Artist, Theatre Guild
 March 10, 12: Dr. Arne Westgren, of Stockholm, Secretary of the Nobel Committees for Physics and Chemistry
 March 12, 13: C. A. Dykstra, City Manager, Cincinnati, Ohio

Spring Quarter

April 1, 2: Harold J. Laski, Professor of Political Science, London School of Economics and Social Science
 April 2: Bruno Roselli, Founder and Chairman of Italian Department at Vassar College, Lecturer on Italian Literature, Art, and International Affairs
 April 6, 7: Dr. Arthur Haas, Physicist, University of Vienna
 April 14, 16: James Brown Scott, Secretary Carnegie Endowment for International Peace
 May 4, 5, 6, and 7: Prof. G. H. Parker, Director, Zoology Laboratory at Harvard
 May 6: Dr. Judah L. Magnes, Chancellor, Hebrew University, Jerusalem, Palestine
 May 15: Dr. Richard L. Sutton, of Kansas City. Authority on Dermatology
 May 19: John Temple Graves II, Editor, *Birmingham News* and *Age-Herald*

1931-32

Fall Quarter

October 11: Mrs. Emily Newell Blair, Associate Editor of *Good Housekeeping*, Writer, and Lecturer on Literature, Politics, and the Home
 October 25: Franco Bruno Averardi, Lecturer on Italian Literature, Art, and History
 October 30: Thomas Craven, Art Critic
 October 30: Ernst Jackh, Founder and First President of Institute of Political Science, Germany, Author
 October 30: W. L. Jones, United States Senator from Washington
 December 8: Dr. Percival Bailey, Scientist, University of Chicago

Winter Quarter

January 12, 13: Dr. Frederick von der Leyen, University of Cologne, Germany
 January 13: Lucille Douglass, Artist, Lecturer, and Writer
 January 15: Willard Millard, Field Representative for the Proportional Representation League
 January 19: V. L. Granville, English Actor
 February 5: Jacob Viner, Economist, University of Chicago
 February 8, 9, 10: George Tischler, Cytologist, Kiel, Germany
 February 18: Grayson Kirk, Economist, University of Wisconsin
 February 19, 29: Maud Scheerer, Dramatic Reader and Lecturer
 March 4: Raymond Schlemmer, Member of the staff of the International Committee of the Red Cross
 March 7, 10: William A. Robson, Lecturer, London School of Economics and Political Science

March 11: W. W. Cumberland, Economist
 March 16: Dr. Wm. M. Bloom, Professor of Medicine and Biology, University of Chicago

Spring Quarter

April 4: Dr. Camillo von Klenze, Professor, University of Munich
 April 15: Harry D. Gideonse, Economist, University of Chicago
 April 15: Walter V. Bingham, Director, Personnel Research Federation, New York City
 April 27: Philip F. La Follette, Governor of Wisconsin
 May 4: Leslie Blanchard, Executive Secretary, National Student Council of the Y.W.C.A.
 May 5, 6: A. R. Radcliffe-Brown, Professor of Anthropology, University of Chicago
 May 10, 11: Dr. G. W. Field, Biologist, Washington, D.C.
 May 19, 20: Norman Thomas, Director of League for Industrial Democracy, Socialist Candidate for President

Sigma Xi Lecture Series

In 1928 the Minnesota Chapter of Sigma Xi, an honorary scientific society inaugurated the practice of sponsoring an annual series of four lectures which were opened to the public.

The lectures first were delivered in the Botany auditorium, with a seating capacity of 300 persons. In 1930 the growth of interest in the lectures necessitated a shift to the new Physics auditorium, seating 500 persons. Again increased attendance made it necessary to move the lectures to a larger auditorium. In 1932 the society held its lectures in the Cyrus Northrop Memorial Auditorium where a total of 12,500 persons attended the lectures.

It is clear from the steady growth in attendance that these scientific lectures are meeting a genuine need and the Society of Sigma Xi may be said to be making an important contribution to the cultural life not only of the University but of the state.

It is gratifying to know that these lectures are being attended by students and faculty members, but it is even more gratifying to know that hundreds from Minneapolis, St. Paul, and the surrounding territory are taking advantage of the opportunity to learn more about recent scientific discoveries.

The subject of the 1931 symposium, "The Rôle of Biological Science in Modern Life" was discussed by the following members of the staff:

January 30: Dr. R. A. Gortner, "Biochemistry and the World Today"
 February 6: Dr. W. P. Larson, "Micro-Organisms in Daily Life"
 February 13: Dr. W. A. Riley, "Warfare Between Man and the Insect Kingdom"
 February 20: Dr. Florence L. Goodenough, "Child Development and the Coming Generation"

In 1932 the topic of discussion, "Evolution and Civilization" was presented by:

January 22: Dean E. M. Freeman, "Critical Epochs in Plant Evolution"

- January 29: Dr. R. E. Scammon, "Physical Development of Man"
 February 5: Dr. A. E. Jenks, "Primitive Men and Their Cultures"
 February 12: Dr. D. F. Swenson, "Evolution and Life Values"

Breakfast for Archbishop Murray

To honor His Excellency, the Most Reverend John Gregory Murray, archbishop of St. Paul, the Newman Club, student Catholic organization, was host at a breakfast on Sunday, April 3, to the members of the Board of Regents, southeast Minneapolis pastors, and one thousand faculty members and students of the University of Minnesota.

Archbishop Murray made an address on education. The president of the University greeted Archbishop Murray and made a short address. Others who spoke were, Rev. Edward Peters, chaplain of the Newman Club at the University, Dr. Guy Stanton Ford, dean of the Graduate School, J. Arthur Farley, president of the Newman Club, and Weston Grimes, president of the All-University Student Council. Dr. William A. O'Brien of the Medical School was toastmaster.

Changes in the Board of Regents

Mr. Lars O. Teigen, a member of the Board of Regents, died on November 8, 1930. Mr. Teigen was elected by the legislature and began his term of service on April 3, 1929. He had been a resident of the state of Minnesota for more than sixty years. He was recognized in his own community as a man of sterling integrity, and as a faithful public servant. He was greatly interested in the farm co-operative movement. He organized the Jackson Farmers Elevator Association more than twenty-two years ago and served as secretary of the organization continuously from that time until his death. He was president of the Brown County Bank, secretary of the Peoples Cooperative Store, and director of the Farmers Cooperative Creamery of Jackson. For many years Mr. Teigen was a member of the state legislature. He was unfamiliar with the nature and activities of the University at the time he was elected a member of the Board of Regents. He gave studious and intelligent attention to these matters until at the time of his death he was one of the most valued members of the board. Mr. Teigen was always open minded and willing to decide matters on the basis of the facts and never, so far as the University was concerned, on the basis of political influence.

Mr. George H. Partridge, who had served the University faithfully and with distinction for a period of twelve years, retired from the Board of Regents in March, 1931. One cannot pass by the service which Mr. Partridge performed without giving some particular attention and consideration to it. For many years Mr. Partridge was chairman of the Build-

ings and Grounds Committee of the board and in this capacity was instrumental in improving the physical facilities of the institution year by year. He looked upon the University as a growing institution and recognized that adequate facilities are essential to the instructional life and research work of the University.

Mr. Samuel Lewison. During the biennium Mr. Samuel Lewison who had been a member of the Board of Regents from April 22, 1927 to March 31, 1931, resigned. His resignation was a loss to the University for he had become familiar with its work and sympathetic with its life.

Mr. J. E. G. Sundberg's term as a member of the Board of Regents expired on March 3, 1931. Mr. Sundberg had served since March 6, 1923. His devotion and loyalty to university matters made him a most valuable regent.

New Regents

Mr. Rufus R. Rand, Jr., of Wayzata, was elected to succeed Mr. George Partridge.

Mr. Charles R. Butler, of Mankato, was elected to succeed Mr. Teigen.

Dr. O. J. Hagen, of Moorhead, was elected to succeed Mr. J. E. G. Sundberg.

The Renaming of Buildings

The committee which was appointed to consider the renaming of buildings which bore the appellation "old" as part of their names, is responsible for the following changes in building names:

Pattee Hall—formerly the *Old Law School Building*—named in memory of William S. Pattee, dean of the Law School, 1888-1911.

Jones Hall—formerly the *Old Physics Building*—named in honor of Frederick Scheetz Jones, professor of physics, 1889 to 1909; dean of the College of Engineering and Mechanic Arts, 1902 to 1909.

Burton Hall—formerly the *Old Library*—named in honor of Marion LeRoy Burton, president of the University from 1917 to 1920.

Wesbrook Hall—formerly the *Old Dentistry Building*—named in honor of Frank Fairchild Wesbrook, dean of the School of Medicine 1906 to 1913.

The Minneapolis Symphony Orchestra

An innovation of the past two years has been the affiliation between the University of Minnesota and the Orchestral Association of Minneapolis, which has made it possible for the University to entertain the Minneapolis Symphony Orchestra for its seasons of regular concerts. The Cyrus Northrop Memorial Auditorium has become, in fact, the real home of the orchestra. General offices, together with a large rehearsal hall underneath the stage, and an instrument room have been provided. In addition, the orchestra has brought to the campus of the University one of the most valuable musical libraries in existence.

The coming of the orchestra to the campus of the University has been a distinct educational advantage. The students—given special rates—attend the concerts in large numbers. The nearness of the orchestra makes it a subject of conversation and of news in student meetings and student publications. Good music has come closer to the students and therefore has become more vitally a force in their education. Indirectly this influence has spread to the state.

The splendid facilities of the Cyrus Northrop Memorial Auditorium have attracted capacity audiences to nearly all concerts. There are regular attendants from communities many miles distant from Minneapolis. The University has thus become a musical center.

Provisions for Retirement for the University Teaching Staff

For reasons set forth below, the regents revised the retirement age of the university teaching staff:

The President of the University presented the following report:

A notable step in providing for the stability and security of the staff was taken by the Regents of the University when they adopted the group insurance plan. It was known at that time, however, that this plan did not make adequate provision for the retirement of the staff and particularly for the older members of the staff. It was generally understood that further consideration would be given to this problem. The losses which we have sustained during the last year and a half to institutions that are making adequate provision for the old age of members of their staffs, have made us acutely conscious of the need of giving immediate attention to this problem. It is well known that most of the universities of America and a very large percentage of the colleges now have some retirement provision.

When the Carnegie Foundation was established and provision was made for the retirement of college and university professors subject to certain conditions, the University of Minnesota was placed on the Carnegie Foundation list. From that source it has received nearly \$400,000, extending back over 20 years or more. The University now has 109 persons on the Carnegie Foundation retirement list and it is receiving this year \$32,745 from that source to provide for their retirement.

Since the Carnegie Foundation plan was adopted, however, it has been necessary for the trustees to reduce the expectancy and to raise the age of those retiring, until today the retirement age is 70. The maximum which anyone may receive after 1931 is \$1,000 from the Carnegie Foundation to which there may be added an additional \$500 from the Carnegie Corporation, but in case the individual retires before 70, there is a reduction of 1/15 for each year under 70, to 65.

Not only educational institutions but the great foundations of America, the great corporations, mercantile and manufacturing establishments, insurance companies, banks, railroads, and the like now have some sort of retirement plan, even communities; for example, Hennepin County, recently voted favorably on an old age pension plan. The State of Minnesota has adopted a plan which applies to

the justices or commissioners of the State Supreme Court and district judges.

It would seem, in view of the universality of this movement, that the University should take some steps of a concrete nature to demonstrate that it expects to keep in line with progress.

On recommendation of the President of the University, the Regents voted unanimously to adopt the following resolutions:

1. That the retirement age for members of the University staff shall be 68 but may be extended to 70 at a reduced salary and with a definite limitation of functions.

2. That the period beyond 70 shall be regarded as a period of continuing service and that members of the staff should be continued on pay for such duties as may be determined by the President of the University. The pay of full professors to be at the rate of \$2,500 a year and that of associate professors at the rate of \$2,000 a year.

3. That these rules shall apply only to those who are not on the Carnegie plan. For those who are on the Carnegie plan, the Regents will undertake to make up the difference between what the Carnegie Foundation will pay and \$2,500 a year for professors and \$2,000 for associate professors. The Regents, at their discretion, may increase these amounts in any individual case.

4. It is understood that these provisions are temporary in character, that they shall be regarded as binding only from year to year, and that further study will be given to the problem with a view to adopting a more constructive plan or of accepting the provisions of the Teachers Insurance and Annuity Association of America.

The following amended regulations covering the retirement of persons on the non-academic payrolls of the University were approved May 25, 1932:

1. That the retirement age for non-academic members of the University staff shall be 68, but may be extended to 70 under exceptional circumstances upon recommendation by the proper Dean or administrative officer and the approval of the President.

2. That during the period of adjustment non-academic members of the University staff 70 or over on June 30, 1932 be retired as of that date, provided, however, that under exceptional circumstances upon recommendation by the proper Dean or administrative officer and the approval of the President the date of retirement may be extended, but not beyond June 30, 1933.

Minnesota Benefit Association Insurance

The Minnesota Benefit Association on July 16, 1930, announced and extended an invitation to the University to participate in its new group accident and health insurance plan. The plan was referred to the Board of Regents and on July 18, 1930, the board referred it to the president and the comptroller for an investigation and report.

All employes of the state under sixty-five years of age after three months of employment are eligible under the plan and the insurance becomes effective as soon as seventy-five per cent (75%) of the employes of a department (meaning a state department, in this case the University) elect to accept the insurance.

The benefits provide for a principal sum of from \$750 to \$2500 and for accident and sickness benefits of from \$50 to \$160 per month. The benefits, however, may not exceed two-thirds of the employee's earnings.

The policy pays for all accidents except those covered by the Minnesota Workmen's Compensation Act and all sickness as follows:

Principal sum—for death, dismemberment or loss of sight resulting from non-occupational accidents.

Accident benefits from the first day for a period of twenty-six consecutive weeks.

Sickness benefits from the eighth day for a period of twenty-six consecutive weeks.

Double benefits during hospital confinement for ten weeks.

The plan class for semi-annual premiums of from \$7.50 for a principal sum of \$750 and accident and sickness benefits of \$50 per month to \$25 for a principal sum of \$2500 and accident and sickness benefits of \$160 per month.

The plan has been approved by the State Commissioner of Insurance, appears to be good, the company is reputed to be a strong one, and does not place upon the University any responsibility for guaranteeing or collecting the premiums.

It is our recommendation that the Regents authorize the Minnesota Benefit Association to offer this group accident and health insurance to the employees of the University with the understanding, however, that the University will not require any new employe to accept the plan as a condition of employment.

Dormitories

Since the last biennial report was issued the University has opened Pioneer Hall, its first dormitory for men. Our experience in the housing of students in Pioneer Hall justifies us in continuing the development of our dormitory plan whenever conditions will permit.

It will be recalled that Pioneer Hall is really divided into eight different houses, all located under one roof. Each of these houses has been named after a pioneer of the Northwest. The names of the pioneers who were thus to be honored were selected by and with the consent of the Minnesota State Historical Society and upon the recommendation of the special committee appointed for that purpose. The houses are named as follows:

1. *Flandrau House*. Charles E. Flandrau was one of the first settlers of St. Peter in 1854. He was a member of the state constitutional convention, associate justice of the state supreme court, and the commander of the volunteer forces that defended New Ulm against the Indians in 1862.

2. *Bottineau House*. Pierre Bottineau was a famous pioneer guide, the pathfinder for many expeditions—such as that of Stevens in 1853—westward from Minnesota.

3. *Brown House*. Joseph R. Brown came to Fort Snelling as a drummer boy in 1819. He later became a pioneer farmer, a fur trader, a lumberman on the St. Croix, a town site promoter, and member of the territorial legislature.

4. *Ireland House*. Archbishop John Ireland came to St. Paul in 1852, and later was ordained a priest there. He served as chaplain of the Fifth Minnesota in the Civil War. In 1869 he organized the first total abstinence society in the state. He did much to encourage Catholic immigration to Minnesota. In 1875 he became a bishop and in 1888 archbishop of St. Paul.

5. *Mattson House*. Hans Mattson came to Minnesota in 1853, when he founded a Swedish colony at Vasa. He was colonel of the Third Minnesota in the Civil War. Later he served as secretary of the State Board of Immigration and as secretary of state. From 1881 to 1883 he was United States consul general in India. He was interested in Swedish newspapers in Minneapolis and Chicago.

6. *James J. Hill House*. James J. Hill came to St. Paul in 1856, where he acted as shipping clerk. He became interested in transportation in the Red River region, and eventually brought together a number of railroads as the Great Northern system.

7. *Boutwell House*. William T. Boutwell visited Minnesota for the first time in 1832, when he accompanied Schoolcraft on the expedition which resulted in the discovery of Lake Itasca. In the next year Boutwell returned as a missionary, and he served at various stations among the Chippewa until 1847, when he settled at Stillwater.

8. *Colvill House*. William Colvill settled at Red Wing in 1854 and established a newspaper, the *Sentinel*, there. He was colonel of the First Minnesota Volunteer Infantry in the Civil War and led their charge at Gettysburg. After the war he was a representative in the state legislature and attorney-general of the state.

Athletics

The University Senate on December 18, 1930, adopted the following amended regulations governing the control of athletics at the University:

I. *Resolved*, That the existing By-Laws I of the Senate By-Laws, relating to the Senate Committee on Intercollegiate Athletics, is hereby repealed, and that there is hereby substituted therefor the following By-Law I:

Section 1: "There shall be a Standing Committee on Intercollegiate Athletics which shall be composed of eleven members: five faculty members to be appointed by the President of the University, subject to the approval of the University Senate, and the University Comptroller and the Director of Physical Education and Athletics, as *ex-officio* members; two alumni members to be recommended by the athletic committee of the Alumni Association and appointed by the President, subject to the approval of the University Senate; two student members to be recommended by the student body and appointed by the President, subject to the approval of the University Senate."

Section 2: "The committee shall appoint a sub-committee of three members of which one shall be the Director of Physical Education and Athletics, and of which a faculty member other than the Director of Physical Education and Athletics, shall be chairman, to fix the price of tickets to intercollegiate contests, prepare complimentary lists, make seating arrangements and have general supervision of tickets to intercollegiate contests."

Section 3: "The control and supervision of the sale of tickets, the depositing of funds, the care of funds, the financial reporting of games and the accounting of all athletic funds is transferred to the Comptroller's office."

Section 4: "The physical care of Northrop Field, Memorial Stadium, the Field House and all campus space devoted to athletics is transferred to the Buildings and Grounds office."

Section 5: "The Committee on Intercollegiate Athletics shall constitute the Eligibility Committee and shall decide upon all questions of student eligibility to participate in intercollegiate sports."

Section 6: "The Director of Physical Education and Athletics shall act as the executive secretary of the committee and be entitled to vote on all matters excepting questions of eligibility."

Section 7: "The Director of Physical Education and Athletics shall be appointed by the Board of Regents upon nomination of the President."

Section 8: "All coaches, managers, and assistant managers shall be nominated by the Director and upon the approval of the President shall be appointed by the Board of Regents."

Section 9: "The Director of Physical Education and Athletics shall be in general charge of and responsible for the detailed administration of intercollegiate athletics, subject to the supervision and approval of the Committee on Intercollegiate Athletics, which committee is given entire control of intercollegiate athletics, (including all schedules of games), subject to the constant revision and ratification of the University Senate."

Section 10: "The President at his discretion may appoint the University Conference Representative. In the absence of such appointment the Chairman of this committee shall act as such representative."

Changes in Coaches

Since the last report was filed Dr. Clarence W. Spears, head football coach of the University, resigned to accept the head football coaching position at the University of Oregon and Mr. Fred W. Luehring after a year's leave of absence for advanced study at Teachers College, Columbia University, resigned to accept a professorship of physical education at the University of Pennsylvania. Mr. Herbert O. Crisler, assistant coach at the University of Chicago, was appointed as director of physical education and head football coach at Minnesota in 1930. He filled these positions satisfactorily for two years. Realizing that the burden of carrying the double responsibility was too heavy, upon his recommendation Mr. Bernard W. Bierman, an alumnus of the University of Minnesota and the head football coach at Tulane University, was appointed as head football coach at Minnesota beginning in 1932. At the close of the football season last year, Mr. Crisler resigned to accept the directorship of athletics and football coaching position at Princeton University.

Mr. Frank G. McCormick, who had been baseball coach at Minnesota, was appointed to succeed Mr. Crisler as director of athletics. Mr. McCormick is a graduate of the University of South Dakota. He was assistant football and basket-ball coach and head baseball coach at the University of South Dakota in 1919-20. He was athletic director and coach of football, basket-ball, and track at Columbus College, Sioux Falls, 1923-24-25. In 1929 he was elected a national executive committeeman of the American Legion for two years. Mr. McCormick was one of the prominent organizers of the American Legion junior baseball program. He gave up the practice of law, resigned from the school board of Sioux Falls to accept a position in the Department of Physical Education and Athletics at the University of Minne-

sota two years ago. This change was made because of his interest in college sports and because he saw in them an opportunity to instruct and serve the youth of his generation.

Use of Athletic Funds

The Committee on Intercollegiate Athletics, realizing the emergency of the present economic situation, appropriated out of its savings the sum of \$20,000 to be used as a Special Student Loan Fund. This action on the part of the committee is to be commended. There has never been a time in the last thirty years when funds were needed more for this purpose than now.

The Minnesota Athletic Survey

The Minnesota Athletic Survey, to which attention was called in the report of two years ago—a survey conducted by President H. M. Gage, Coe College, Professor C. W. Savage, Department of Physical Education and Athletics, Oberlin College, Major John L. Griffith, commissioner of athletics of the Western Conference, and Mr. Grantland Rice—showed among other things from the opinions of more than 10,000 persons, including 850 members of the staff, 4,000 students, 700 "M" men, many members of the General Alumni Association, high school executives of the state, newspaper editors, and several thousand taxpayers and parents, that all groups were favorable to intercollegiate athletics. The athletes were more favorable than any other group, parents of athletes came next, the undergraduates next, and other groups followed in this order: editors, general public, alumni, high school executives, faculty, and college and university presidents. Ninety-six per cent of the college and university presidents and 92 per cent of the faculty believe that intercollegiate athletics have a legitimate place in the University. Regarding the question as to whether athletic training aids in the development of desirable character traits, 95 per cent of the "M" men, 82 per cent of the presidents, and 94 per cent of the parents replied in the affirmative. As to the manner in which intercollegiate athletics should be controlled, 76 per cent of the "M" men do not favor alumni control. The majority of the various groups were of the opinion that athletics should be controlled by the university authorities exactly as other divisions and units of the University are controlled.

There was no evidence to show that participation in athletics tends to lower scholastic averages; as a matter of fact the survey report corroborates a report made earlier by I. Emerick Peterson which shows that students who are members of the football squad who appear for practice regularly and consistently during the season are, generally speaking, up in their studies; that students who fail to appear regularly and consistently are more likely to be in difficulty in their studies. All of which means that students who

are faithful and conscientious in one respect are likely to be faithful and conscientious in another respect; while those students who are negligent and unfaithful in one respect are likely to be negligent and unfaithful in another. In other words, the fundamental qualities of character count in football as well as in one's studies.

Fees

No general increases in fees, such for example, as would affect an entire college, were made during the biennium. As happens each year, a number of fee changes to meet special and restricted situations were made. These included such things as typewriter fees for certain business courses, fees covering material used in courses that employ a considerable amount of expendable supplies, and fees for special projects, such as summer session demonstration schools and the like. Fees were fixed, also, for the University College, a new division of the institution.

Patents

During the biennium, two new patents, one by W. E. Petersen, Division of Dairy Husbandry, on a new reagent for testing buttermilk, and the other by Dr. Rodney B. Harvey, associate professor of plant pathology and botany, on an invention, plant-toxic substances and methods for applying the same and other plant-affecting substances, were accepted. And in addition a license agreement was entered into with Louis F. Nafis Incorporated, Chicago, Illinois, covering the manufacture and sale of "reagent for volumetric determination of fat."

Agricultural Project Agreements

Two special agreements governing research projects in agriculture were entered into by the Board of Regents during the biennium. The first of these, on which action was taken September 26, 1930, is described in the minutes as follows:

Voted to authorize the Division of Agricultural Economics to offer to farmers of the state certain co-operative accounting and statistical aid, in accordance with agreement filed supplement to the minutes, page 719.

This agreement provides that if 200 or more farmers enter into a contract with the University of Minnesota and pay a stipulated annual sum, the University, in co-operation with county agents and Better Farming Clubs, will offer certain assistance to the farmer in managing his farm business, arriving at cost determinations by correct accounting methods. The data gathered will be used by the Department of Agricultural Economics in "An accounting study of the factors affecting the income of dairy farms."

In the second agreement the Board of Regents took the following action:

Voted to approve memorandum of agreement between the American Dry Milk Institute, Inc. and the University of Minnesota to carry on co-operative research to ascertain the biological value of milk proteins in ration of milking cows, in accordance with memorandum of agreement, filed supplement to the minutes, page 817.

By this agreement the American Dry Milk Institute agreed to pay to the University \$60 a month to cover the salary of a man who spent six hours a day taking care of the experimental animals used in the investigation.

James Ford Bell Gift

Two years ago Mr. James Ford Bell of Minneapolis offered a gift of \$125,000 which, if matched by a corresponding sum by the state, would have made it possible for the University to have erected a natural history museum on the campus. The state failed to provide its share of the cost of the building and Mr. Bell withdrew his offer. The University appreciates the generous impulses which animated Mr. Bell in making the offer and it regrets that conditions were such that the building could not be erected.

The University was not interested in the building simply for the sake of having a building. It was interested in it because it believes that a museum of natural history would contribute to the educational life of the University. It would provide valuable understanding of the fauna and flora of this region for thousands of students who pass through the halls of the University, and it would have become one of the great influences toward preserving the wild life of this region. Unless such a building is erected in the near future and unless other agencies become even more active in the conservation of the wild life of the Northwest, the time is not far distant when it will be unnecessary to erect a museum for the materials that it should have, for its exhibits will not be available.

Dr. Roberts' Books on Bird Life

During the biennium Dr. Thomas S. Roberts completed his two-volume work on the bird life of the state, *Birds of Minnesota*. Publication of these two books was made possible by generous gifts of citizens of Minneapolis. They are the culmination of the life-work of Dr. Roberts. The books themselves are handsomely bound, exquisitely illustrated, and well written. They are the most distinctive contribution on bird life that has been made since Audubon, and many think that they excel the works of that master. The donors who made the preparation of the manuscript possible, likewise, have made the books easily accessible to those who are interested in works of this sort. Their gifts have enabled the University to sell the books for far less than their actual cost. This is an educational service that can scarcely be overestimated.

Cash Gifts to the University, 1930-31

Summary

1. Loan funds			
1. New	6	\$ 3,063.92	
2. Additions to old	5	2,822.76	
		\$ 5,886.68	
2. Scholarships			
1. New	3	475.00	
2. Additions to old	22	5,680.00	
		6,155.00	
3. Fellowships			
1. New	3	7,600.00	
2. Additions to old	10	11,067.90	
		18,667.90	
4. Prizes			
1. New	5	1,015.00	
2. Additions to old	17	887.00	
		1,902.00	
5. Research and experiment			
1. New	9	458,900.00	
2. Additions to old	9	9,002.47	
		467,902.47	
6. Miscellaneous	5		
		1,220.10	
		\$501,734.15	
Grand total			

Cash Gifts

Loan Funds, Scholarships, Fellowships, and Prizes

- \$ 500.00 From the Department of the Minnesota-American Legion Auxiliary for the Dorothy M. Winter Memorial Fund for loans to daughters or sisters of World War veterans for work in home economics or agriculture.
- 3,000.00 From the National Research Council on behalf of the National Live Stock and Meat Board for the establishment of a fellowship under the supervision of Professor George O. Burr to be known as the National Research Council and National Live Stock Fellowship.
- 40.00 From the Northern States Power Company of Minneapolis for the establishment of two prizes of \$25 and \$15, respectively, to be awarded to those students in interior architecture who present the best solutions to a problem involving as one requirement some special concealed or built-in lighting feature and to be known as the Northern States Power Company Prizes in Interior Architecture.
- 50.00 From the Toronto Society for the establishment of a scholarship for 1930-31 to be known as the Toronto Scholarship and to be awarded to an undergraduate woman student who is majoring in journalism on the basis of scholarship, character, and need.
- 250.00 From Dr. F. P. Keppel, Carnegie Corporation, to be used in promoting interest in the fine arts, either in the form of a prize for the most meritorious piece of original work by a student during the year, or in any other way that commends itself to the University.
- \$ 3,600.00 (\$900 the first year, \$1,200 the second year and \$1,500 the third year) from the Swedish Hospital and Dr. Charles R. Drake for the establishment of a fellowship in pathology in the Graduate School to be known as the Swedish Hospital and Charles R. Drake Fellowship.
- 220.00 (\$200 from the St. Paul Housewives League and \$20 from Dean E. M. Freeman) for the establishment of a loan fund for students in the College of Agriculture, Forestry, and Home Economics to be known as the St. Paul Housewives League Loan Fund.
- 50.00 From the Gargoyle Club for the establishment of two annual prizes of \$35 and \$15 respectively in books for a special design competition to be given in the junior year in the School of Architecture and to be known as the Gargoyle Club Prizes in Architecture.
- 200.00 From the West Central School of Agriculture Class of 1930 for the establishment of a loan fund for needy and worthy students attending the West Central School of Agriculture to be known as the West Central School of Agriculture Class of 1930 Loan Fund.
- 100.00 From Delta Phi Delta for the establishment of a loan fund to be known as the Delta Phi Delta Loan Fund and to be used for students whose major subject is art.
- 300.00 From the Minneapolis College Women's Club for the establishment of a scholarship to be awarded in alternate years to a woman graduate student, the first award to be made in 1932.
- 75.00 From the Twin City Section of the American Society of Mechanical Engineers to cover first, second, and third prizes of \$25, \$15, and \$10 respectively, and handbooks to be awarded to seniors in the Department of Mechanical Engineering on the basis of technical papers presented in one of the regular senior courses.
- 100.00 From the Agricultural Faculty Women's Club for the establishment of a loan fund for students in the College of Agriculture, Forestry, and Home Economics.
- 600.00 And the following shares:
- 17 shares Roan Antelope Copper Co., Ltd., American No. 2696
 - 52 shares Rhodesian Selection Trust St. No. 9130
 - 20 shares Consolidated American Selection Trust, Ltd., No. 2204
 - 156 shares Trepca Mines, Ltd., No. 2431 from the Minnesota Chapter of the Society of Sigma Xi to be held in trust by the University of Minnesota for the Society of Sigma Xi. The trust fund is to be known as the Thomas F.

Andrews Bequest, and the prizes to be awarded for undergraduate research are to be known as the Thomas F. Andrews Undergraduate Research Prizes.

- \$ 125.00 From the Minneapolis Women's Advertising Club and the Business Women's Club of the University of Minnesota for the establishment of the Minneapolis Women's Advertising Club Scholarship Fund.
- 1,000.00 From the American Association of Collegiate Registrars to be paid Miss Marcia Edwards, fellow of the association attending the University of Minnesota during 1930-31.
- 1,943.92 Central School of Agriculture Student Loan Fund. (Student loan funds previously administered by the principal of the Central School of Agriculture) to be placed in a single fund to be known as the Central School of Agriculture Student Loan Fund and to be administered in the manner prescribed for other student loan funds.

Additions to Previous Gifts

Loan Funds, Scholarships, Fellowships, and Prizes

- \$ 1,500.00 From the E. I. duPont de Nemours and Company for the duPont Fellowship in Chemistry for 1930-31 and 1931-32.
- 550.00 For Law Faculty Scholarship Fund
 - \$150 from Judge John B. Sanborn
 - \$250 from United States Attorney-General W. D. Mitchell
- 750.00 From the Cloquet Wood Lumber Company for the Cloquet Wood Fibre Fellowship.
- 750.00 From the Northern Lumber Company for the Cloquet Wood Fibre Fellowship.
- 1,200.00 From E. R. Squibb & Sons for the continuation of E. R. Squibb & Sons Fellowship in Pharmacology.
- 100.00 For Dad's Day Loan Fund.
- 100.00 From the Woman's Relief Corps for the Minnesota Grand Army of the Republic and Woman's Relief Corps Scholarship and Loan Fund.
- 200.00 From the Minnesota Home Economics Association for the Minnesota Home Economics Association Freshman Scholarship for 1931-32.
- 50.00 From Dr. M. H. Thornton for the Delta Sigma Delta Loan Fund.
- 2,400.00 From Law Alumni for the Law Alumni Association Scholarship Fund (sixteen scholarships of \$150 each).
- 50.00 For the Sigma Alpha Mu Scholarship Fund.
- 2,000.00 From Engineers Bookstore for the Engineers Bookstore Student Loan Fund with the understanding that the \$2,000 will be available in the fund on June 15, 1933, for return to the donor.
- 572.76 For the General Student Loan Fund (cancellation of refund checks six years old).

Cash Gifts

Scholarships, Fellowships, and Prizes

- Additions
- \$ 250.00 Class of 1890 Fellowship.
- 175.00 Pillsbury Debate Prize.
- 100.00 Peavey Prize Fund.
- 30.00 Magney & Tusler Prize in Architecture.
- 105.00 Minnesota State Pharmaceutical Association Scholarship.
- 400.00 St. Paul College Women's Club Scholarships.
- 150.00 Faculty Women's Club, Students' Section, Scholarship Fund.
- 100.00 P. E. O. Scholarship.
- 100.00 Mrs. George C. Christian Scholarship.
- 100.00 Mrs. George P. Douglas Scholarship.
- 200.00 American Legion Auxiliary Scholarship (for 1931-32).
- 15.00 Phi Lambda Upsilon Prize.
- 10.00 Alpha Chi Sigma Twin City Alumni Association Prize in Chemistry (for 1931-32).
- 25.00 Alpha Zeta Scholarship (for 1931-32).
- 50.00 Home Economics Association Scholarship (for 1931-32).
- 100.00 Agricultural Faculty Women's Club Scholarship (for 1931-32).
- 46.00 American Society of Civil Engineers Prize, Northwest Section in Architecture.
- 15.00 Alpha Alpha Gamma Prize in Architecture (for 1931-32).
- 25.00 Pullman Company Scholarship.
- 75.00 American Institute of Architects, Minnesota Chapter, Prize.
- 50.00 Sigma Theta Pi Scholarship.
- 50.00 Phi Upsilon Omicron Scholarship (for 1931-32).
- 50.00 School of Architecture Faculty Prize.
- 25.00 William A. French Interior Decoration Prize.
- 30.00 Minnesota Quarterly Prize.
- 100.00 Advertising Club of Minneapolis Scholarship.
- 250.00 Henry Webb Brewster Scholarship (for 1931-32).
- 250.00 Florence A. Brewster Scholarship (for 1931-32).
- 50.00 Louise M. Powell Prize.
- 150.00 Minnesota Law Review Scholarship.
- 100.00 Charles Lyman Green Prize in Physiology.
- 26.00 School of Chemistry Faculty Prize.
- 50.00 Arthur V. Aronson Memorial Scholarship.
- 40.00 Zeta Alpha Psi Prize in Extemporaneous Speaking.
- 75.00 Lambda Alpha Psi Prize.
- 25.00 Tau Beta Pi Prize.
- 1,483.16 Miller Teaching Fellowship.
- 884.78 Pokegama Tuberculosis Fellowship.
- 400.00 Fleischmann Fellowship.
- 3,600.00 American Dry Milk Fellowship.
- 249.96 Dr. W. E. Camp Fellowship in Ophthalmology and Oto-Laryngology.

Gifts for Research and Experiments

- \$ 5,000.00 From the American Society of Heating and Ventilating Engineers to finance a series of experiments to determine the heat insulation properties of a selected list of woods to be

- furnished by the National Lumber Manufacturers' Association.
- \$ 1,200.00 From the National Research Syphilis Society for research under Dr. Michelson's direction.
- 600.00 From the American Medical Association for Dr. Wangensteen's work on intestinal obstruction.
- 7,000.00 From the Citizens Aid Society for the Cancer Institute Research.
- 20,000.00 (\$10,000 annually for the two calendar years, 1931 and 1932) from the Carnegie Foundation for the Advancement of Teaching for researches in college and university problems, to be conducted at the University of Minnesota.
- 275,000.00 From the Rockefeller Foundation to be used as a Fluid Research Fund, payments to be made according to the following schedule:
- | | |
|------------------------------------|----------|
| January 1 to June 30, 1931..... | \$20,000 |
| July 1, 1931 to June 30, 1932..... | 45,000 |
| July 1, 1932 to June 30, 1933..... | 60,000 |
| July 1, 1933 to June 30, 1934..... | 60,000 |
| July 1, 1934 to June 30, 1935..... | 45,000 |
| July 1, 1935 to June 30, 1936..... | 30,000 |
| July 1, 1936 to June 30, 1937..... | 15,000 |
- 75,000.00 From the Carnegie Corporation.
- 75,000.00 From the Rockefeller Foundation—as set forth in the following resolutions:
- Resolved*, That, from the balance available for appropriation, the sum of seventy-five thousand dollars (\$75,000) be, and it hereby is, appropriated to the University of Minnesota in support of its study of the re-education of the unemployed. (Carnegie Corporation).
- Resolved*, That the sum of seventy-five thousand dollars (\$75,000), or as much thereof as may be necessary, be, and it is hereby, appropriated to the University of Minnesota for the year 1931 toward an economic and social study of unemployment within a more general program sponsored by the Tri-City Employment Stabilization Committee, on condition that a sum of not less than \$225,000 shall be pledged for the program as a whole, of which not less than \$150,000 shall be made available to the University of Minnesota. (The Rockefeller Foundation).
- 100.00 From the Corona Peat Products Company for research to determine the values of various types of peat as soil ingredients or fertilizers in the growing of various kinds of greenhouse and garden plants.
- Additions to Previous Gifts*
- \$ 1,500.00 From George A. Hormel and Company for work under the direction of Dr. H. O. Halvorson, in the Department of Bacteriology.
- 500.00 From the Eli Lilly and Company for the Eli Lilly and Company Research Fund in the Department of Pharmacology.
- 137.31 For the Coffman Educational Research Fund.
- \$ 547.66 From the Northwest Better Flax Association for the Flax Seed Development Fund.
- 500.00 From the Flax Development Committee for the Flax Seed Development Fund.
- 2,697.50 For Fox Breeders Distemper Research Fund
\$150.00 Minnesota Silver Fox and Fur Co.
\$700.00 United Fur Ranches, Inc.
\$300.00 From the Polar Fox Company, Worthington, Minnesota
\$247.50 From the Belmond Silver Fox Ranch, Belmond, Iowa
\$1000.00 From the Central New York Fur Company, Bonville, N.Y.
\$100.00 From the Iowa Tulein-Dalton Silver Fox Company, Des Moines, Iowa
\$200.00 From the Lincoln Fox Farms
- 1,270.00 From members of the Minnesota District of American Association of Hospital Social Workers for the Medical Social Work Fund.
- 100.00 Sporting Arms and Ammunition Manufacturers' Institute Research.
- 1,750.00 American Society of Heating and Ventilating Co-operative Engineers Research.

Cash Gifts

Miscellaneous

- \$ 172.00 For the establishment of the Julia Chaflin Upson Fund, the income of which shall be used for new purchases for the Arthur Upson Room, copies of Arthur Upson's poems which are to be sold to increase this fund, and copyrights of Arthur Upson's works.
- 205.10 (\$55.10 from the Forestry Class of 1932, \$100 from the Gopher Peavey staff, and \$50 from the Forestry Club) for the establishment of the Dean E. M. Freeman Medal for Student Leadership Fund.
- 268.00 From Dr. Frank E. Burch for equipment for the Department of Ophthalmology and Oto-Laryngology.
- 500.00 For co-operation between vocational service for juniors and the University of Minnesota in training personnel workers.
- 75.00 For the Alumni Service Fund.
- The following people have made the University of Minnesota beneficiary of their university group insurance:
- Fred Johnson, elevator man
 - Ruth E. Boynton, Students' Health Service
 - E. P. Lyon, dean of the Medical School
 - Edna L. Goss, Library, head cataloger
 - Adolph Erickson, elevator man, Hospital
- Assignment of patent of W. E. Petersen, Division of Dairy Husbandry, on a new reagent for testing buttermilk.
- Provision in the last will and testament of Walter D. Boutell of Hennepin County, Minnesota, which provides for the establishment of a trust fund for Clara B. Boutell, wife, and John

E. Boutell, brother, upon whose deaths the trust shall cease and determine, at which time the will provides as follows:

"To the University of Minnesota, the sum of Forty-five Thousand Dollars (\$45,000), in trust, the income to be divided into three (3) equal parts and used for the purpose of assisting needy students who have shown exceptional industry and ability in their work, by fellowships, scholarships, loans or other appropriate methods; one part to be applied as the Faculty of the Law School may from time to time direct, one part to be applied as the Faculty of the Medical School may from time to time direct, and one part to be applied as the Faculty of the College of Science, Literature, and the Arts may from time to time direct."

Provision in the last will and testament of Charles H. Smith by which a trust fund of \$40,000 is created which trust fund may, under certain conditions, revert to the University.

Offer of a gift on \$125,000 by James Ford Bell, provided that the state of Minnesota will make available a like sum or such additional sums as may be required to properly cover the cost of erecting a museum building.

Provision in the last will and testament of the late Sadie L. Matson, which provides for a gift of \$10,000 for the establishment of a scholarship fund to be known as the Saint Paul Central High School University of Minnesota Scholarship Fund.

Miscellaneous Gifts

A Leitz Universal Apparatus for micro and macro moving pictures apparatus from Mr. Alexander P. Anderson, Tower View Laboratory, Red Wing, Minnesota, for the Division of Agricultural Biochemistry.

A model of the Alpena Mine on the Mesabi Range from the Oliver Iron Mining Company for the School of Mines and Metallurgy.

Eighteen etchings, dry point, soft ground and lithograph reproductions of drawings, from Mr. George T. Plowman, Class of '92, Architecture, for the College of Engineering and Architecture.

A gold medal for 1930-31 from the Southern Minnesota Medical Association to be awarded to the member of the senior class of the Medical School whose work in the clinical fields of medicine and surgery for the school term of 1930-31 is deemed best by a committee composed of professors of medicine and surgery and the dean of the Medical School.

A keratometer from Dr. Egil Boeckmann for the Department of Ophthalmology and Oto-Laryngology.

Assignment of invention, Plant-Toxic Substances and Methods for Applying the Same and Other Plant-Affecting Substances from Dr. Rodney B. Harvey, associate professor of plant pathology and botany.

A replica of the McCormick reaper in 1831 from the International Harvester Company of America.

A Dwight and Lloyd sintering machine from the American Ore Reclamation Company for the Mines Experiment Station.

A concentrating table from the Deister Machine Company for the Mines Experiment Station.

A reducing gear unit equipped with shaft coupling from the Falk Corporation for the College of Engineering and Architecture.

A collection of twenty-four original etchings from Professor S. Chatwood Burton for the College of Engineering and Architecture.

Oil painting "The Spirit of Transportation" from the Class of 1931 of the School of Business Administration.

A photographic copy of the manuscript of Einstein's "Zur Einheitlichen Feld-Theorie" from President James L. McConaughy, Wesleyan University.

Broadcasting equipment of the former WLAG station from the Northwestern Broadcasting, Inc.

Equipment and illustrative material from the Universal Air Line System, Wold-Chamberlain Field for the aeronautical laboratory.

A Majestic radio receiver from the Grigsby-Grunow Company and 14 radio tubes from the Ceco Manufacturing Company for the Department of Electrical Engineering.

For the Department of Electrical Engineering:

Westinghouse network relay from Mr. Kirk Buchak, Minneapolis

Portable telephone repeater from the Northwestern Bell Telephone Company, Minneapolis

230 vacuum tubes from the Sylvania Products Company, Emporium, Pennsylvania

12 vacuum tubes from the Triad Manufacturing Company, Pawtucket, Rhode Island

15 vacuum tubes from the Cable Radio Tube Corporation, Brooklyn, New York.

9 audio frequency transformers from the Sangamo Electric Company, Springfield, Illinois

A direct current generator from Swift and Company, South St. Paul, for museum purposes.

From the Alpha Rho Chi National Architectural Fraternity an annual award of a medal to be known as the Alpha Rho Chi Medal in Architecture to be awarded by the faculty to that graduating senior of the School of Architecture who has shown an ability for leadership, performed willing service for his school and department, and gives promise of real professional merit through his attitude and personality.

From the Minnesota Chapter of Chi Epsilon an annual prize of a *Civil Engineers' Handbook*, or its equivalent, to a sophomore in civil engineering.

Books

14,192 gifts from 3,680 donors for the library.

\$50 from the District Grand Lodge No. 6, Independent Order B'nai B'rith for the purchase of books on Jewish reference subjects for the University Library.

Cash Gifts to the University, 1931-32

Summary

1. Loan funds		
1. New	11	\$ 6,229.14
2. Additions to old	10	1,160.25
		\$ 7,389.39
2. Scholarships		
1. New	1	750.00
2. Additions to old	22	5,921.00
		6,671.00
3. Fellowships		
1. New	4	4,350.00
2. Additions to old	8	16,508.21
		20,858.21
4. Prizes		
1. New	2	200.00
2. Additions to old	19	636.50
		836.50
5. Research and experiment		
1. New	10	20,750.00
2. Additions to old	27	116,735.00
		137,485.00
6. Miscellaneous		
1. New	6	2,564.39
2. Additions to old	2	812.09
		3,376.48
Grand total		\$176,616.58

Cash Gifts*Loan Funds, Scholarships, Fellowships, and Prizes*

- \$ 375.00 From St. Anthony Park Women's Association for the St. Anthony Park Women's Association Loan Fund for needy women students in the College of Agriculture, Forestry, and Home Economics. The principal of this fund is loanable and the income is to be added to the principal.
- 260.00 From the National Council of Jewish Women, St. Paul Section, for the establishment of the Julia Hess Loan Fund, principal and interest to be used for loans to undergraduate Jewish students.
- 600.00 From the White Castle System of Eating Houses Corporation for the establishment of the White Castle System Fellowship, to promote researches in physiological chemistry under the direction of Dr. J. F. McClendon.
- 1,000.00 (1931-32 and 1932-33) \$500 annually from the Minnesota State Pharmaceutical Association for the establishment of the Minnesota State Pharmaceutical Association Graduate Fellowship to foster advanced work and research in the scientific and practical fields of pharmacy and related arts and sciences and to offer opportunities for graduate work toward higher degrees in pharmacy for sufficiently qualified graduates of the College of Pharmacy of the University of Minnesota.
- 2,500.00 From General Foods Corporation for the establishment of an industrial fellowship in agri-cultural biochemistry to be known as the General Foods Corporation Research Fellowship for an investigation to determine physical and chemical factors which influence the structure of gels with particular reference to the problem of the structure of gelatine gels and the hysteresis which is characteristic of such gels.
- 666.25 From various individuals and organizations for the establishment of the Wayne E. Butterbaugh Scholarship Memorial Loan Fund, interest and principal to be loaned under general university regulations to students who have indicated a special interest in the field of traffic management.
- 326.95 From Class of 1901 for establishment of 1901 Class Loan Fund.
- 75.00 From the Twin City Nurserymen's Association for the establishment of the Twin City Nurserymen's Loan Fund for horticultural students.
- 300.00 From the Women's Auxiliary of the Hennepin County Medical Society for the establishment of the Women's Auxiliary of the Hennepin County Medical Society Student Loan Fund for medical students.
- 100.00 Annually from the Minnesota Academy of Medicine for the establishment of an annual prize of \$100 for the best piece of original research work by an undergraduate of the University of Minnesota.
- 200.00 From the Minnesota Home Economics Association for the establishment of the Minnesota Home Economics Association Loan Fund for loans to students in Home Economics.
- 50.00 From the Twin City Panhellenic Group for the establishment of the Twin City Panhellenic Loan Fund for women students.
- 200.00 From Pi Lambda Theta for the establishment of the Pi Lambda Theta Loan Fund to be loaned to graduate women students in Education.
- 750.00 From the Dairy and Ice Cream Machinery and Supplies Association, Inc. for the establishment of the Dairy and Ice Cream Machinery and Supplies Association Scholarship. The object shall be to study a problem relating to market milk. The scholar appointed will be exempt from tuition in accordance with the rules of the University.
- 100.00 From the Alumnae Association of Phi Upsilon Omicron Fraternity for the establishment of the Phi Upsilon Omicron Loan Fund for students in Home Economics.

\$ 100.00	From the Southern Minnesota Medical Association, and medal, to be awarded to the most representative senior student in medicine and surgery for 1931-32.	\$ 2,250.00	From the Law Alumni Association for the Law Alumni Association Scholarships (15 scholarships at \$150 each).
4,175.94	For the establishment of Students' Student Loan Fund, from	750.00	From E. I. duPont de Nemours and Company for the duPont Fellowship for 1932-33.
	Alpha Omicron Pi Sorority\$ 5.00	100.00	From the Woman's Relief Corps of the Grand Army of the Republic for the Minnesota Grand Army of the Republic and Women's Relief Corps Scholarship and Loan Fund.
	Delta Zeta Sorority .....2.00	30.00	Magney and Tusler Prize in Architecture.
	Pi Beta Phi Sorority .....2.00	100.00	Mrs. George C. Christian Scholarship.
	Alpha Phi Sorority .....2.45	100.00	Mrs. George P. Douglas Scholarship.
	Beta Theta Pi Fraternity .....10.00	150.00	Faculty Women's Club, Student's Section, Scholarship Fund.
	Women's Athletic Association .....20.00	210.00	Minnesota State Pharmaceutical Association Scholarship (1931-32 and 1932-33).
	Women's Self-Government Association .....155.00	100.00	P.E.O. Scholarship.
	Intramural sports .....155.00	15.00	Phi Lambda Upsilon Prize.
	All-University Student Council .....250.00	500.00	Pullman Company Scholarship.
	Ski-U-Mah .....250.00	100.00	Advertising Club of Minneapolis Scholarship.
	Minnesota Daily .....1,000.00	150.00	Minnesota Law Review Scholarship.
	Mortar Board .....25.00	50.00	Louise M. Powell Prize.
	Class of 1922 .....353.68	1,808.21	Miller Teaching Fellowship.
	Class of 1924 .....845.21	200.00	The Saint Paul Housewives League Loan Fund.
	Class of 1925 .....215.47	10.00	Alpha Chi Sigma Twin Alumni Association Prize in Chemistry Fund (Handbook).
	Class of 1926 .....263.86	50.00	Phi Beta Chapter of the Mu Phi Epsilon Scholarship.
	Class of 1928 .....580.27	50.00	Phi Upsilon Scholarship Fund.
	Benefit performance, "Spirit of Notre Dame" .....20.00	250.00	Music Scholarship.
	Dental Hygienists .....21.00	100.00	Minnesota Home Economics Association Freshman Scholarship for 1932-33.

Additions to Previous Gifts

Loan Funds, Scholarships, Fellowships, and Prizes

\$ 5,850.00	American Dry Milk Institute Fellowship.	100.00	Advertising Club of Minneapolis Scholarship.
500.00	Anonymous.	100.00	Minnesota Law Review Scholarship.
186.00	Hon. George T. McDermott for the Law Faculty Scholarship Fund.	50.00	Louise M. Powell Prize.
100.00	Class of 1902 Loan Fund.	1,808.21	Miller Teaching Fellowship.
400.00	From Standard Brands, Inc. for the continuation of the Fleischmann Fellowship.	200.00	The Saint Paul Housewives League Loan Fund.
450.00	From St. Paul College Club for continuation of St. Paul College Club Scholarships for 1931-32 (3 of \$100 and 3 of \$50).	10.00	Alpha Chi Sigma Twin Alumni Association Prize in Chemistry Fund (Handbook).
3,000.00	From the National Research Council for the continuation of the National Research Council and National Live Stock Fellowship under the supervision of Dr. George O. Burr.	50.00	Phi Beta Chapter of the Mu Phi Epsilon Scholarship.
1,500.00	From the Cloquet Lumber Company and the Northern Lumber Company (\$750 each) for the continuation of the Cloquet Wood Products Fellowship for 1931-32.	50.00	Phi Upsilon Scholarship Fund.
100.00	Sigma Theta Pi Scholarship for 1931-32.	250.00	Music Scholarship.
100.00	From Senator Henrik Shipstead for the General Student Loan Fund.	100.00	Minnesota Home Economics Association Freshman Scholarship for 1932-33.
50.00	From the West Central School of Agriculture Class of 1930.	100.00	Agriculture Faculty Women's Club Scholarship.
200.00	From the West Central School of Agriculture Class of 1931 for the West Central School of Agriculture Loan Fund.	50.00	Alpha Zeta Scholarship.
60.25	From Dad's Day Association for Dad's Day Loan Fund.	50.00	Home Economics Association Scholarship.
		50.00	School of Architecture Prize.
		25.50	School of Chemistry Faculty Prize.
		25.00	Tau Beta Pi Prize.
		6.00	Pi Tau Sigma Prize in Mechanical Engineering.
		8.00	Chi Epsilon Prize.
		75.00	Lambda Alpha Psi Prize.
		40.00	Zeta Alpha Psi Prize in Extemporaneous Speaking.
		100.00	From Honorable Philip F. LaFollette for the General Student Loan Fund.
		100.00	Agricultural Faculty Women's Club Loan Fund.
		250.00	Florence A. Brewster Scholarship (1932-33).
		125.00	Henry Webb Brewster Scholarship (1932-33).
		75.00	American Institute of Architecture Prize.

Cash Gifts*Research and Experiments*

- \$ 250.00 From the American Medical Association Council on Pharmacy and Chemistry to be used for research on calcium and magnesium in the blood, to be conducted by Dr. Hirschfelder and his associates (Therapeutic Research Grant No. 159).
- 5,000.00 From the Rotary Club of Minneapolis.
- 100.00 From the Honorable Frank B. Kellogg for the Rotary Club International Relations Project at the University of Minnesota. Fund to be known as the Committee on International Relations Project Fund.
- 1,000.00 From the National Research Council to be used for technical assistance for Dr. S. C. Lind for his study of the chemical reactions produced in gases and other dielectrics by passage of electrical discharge. National Research Council Fund (Research in Chemistry).
- 250.00 From the American Medical Association (Council on Pharmacy and Chemistry) for therapeutic research under the direction of Dr. J. F. McClendon. (American Medical Association Therapeutic Research Grant No. 177 Fund).
- 3,000.00 From the Carnegie Foundation for the Advancement of Teaching to be used for the support of a research conference on problems, techniques, and results of research on higher education to be held at the University of Minnesota.
- 100.00 From the Ansul Chemical Company to be used by the Division of Plant Pathology and Botany for the purpose of an investigation to determine the value of formaldehyde dust in controlling cereal diseases.
- 10,000.00 From the American Association for Adult Education for the study of university extension class students under the supervision of a special subcommittee of the Committee on Educational Research.
- 300.00 From the American Academy of Arts and Sciences.
- 750.00 From the National Research Council for Astronomical Research under the direction of Dr. W. J. Luyten.
- 40.00 American Society of Civil Engineers Prize (Northwest Section).
- 25.00 Wm. A. French Interior Decoration Prize.
- 30.00 Minnesota Quarterly Prize.
- 30.00 Peavey Prize.
- 15.00 Northern States Power Prize in Interior Architecture.
- 75.00 American Society of Mechanical Engineers Prize.
- 2,700.00 Minneapolis General Hospital Fellowship.
- 150.00 Ramsey County Medical Auxiliary Loan Fund.

\$ 12.00 American Society of Civil Engineers Prize (Handbook).

Additions to Previous Gifts*Research and Experiments*

- \$ 2,800.00 For Fox Breeders Distemper Research Fund
 Carroll Fox and Fur Farm, Inc.\$400.00
 Lincoln Fox Farms, Inc. 950.00
 United Fur Ranches 150.00
 Central New York Fur Co., Inc. 600.00
 Silverchief Fox Farm 200.00
 Lone Pine Fox and Fur Company 400.00
 Belmond Silver Fox Ranch 100.00
- 600.00 From American Medical Association for the American Medical Association Research Fund (Dr. Wangenstein).
- 270.00 From George A. Hormel and Company for continuation of the study of antiseptics under the direction of Dr. H. O. Halvorson, Department of Bacteriology.
- 1,555.00 From members of the Minnesota District of American Association of Hospital Social Workers for the Medical Social Work Fund.
- 1,750.00 American Society of Heating and Ventilating Engineers Co-operative Research.
- 1,400.00 Minnesota Valley Canning Company.
- 25,000.00 From Carnegie Corporation of New York for the Employment Stabilization Research Institute.
- 75,000.00 From the Rockefeller Foundation for the Employment Stabilization Research Institute.
- 210.00 Coffman Educational Research
 L. D. Coffman\$100.00
 Anna L. Phelps 45.00
 Eleven individuals 65.00
- 250.00 American Medical Association (Therapeutic Research Grant No. 185).
- 7,900.00 From the Citizens Aid Society for Cancer Institute Research Fund for 1932-33.

Cash Gifts*Miscellaneous*

- \$ 150.00 From Mr. and Mrs. D. J. Winton to be used toward the purchase of a stereoscopic camera for the Department of Ophthalmology and Otolaryngology.
- 200.00 From the Federal Bureau of Agricultural Economics for clerical assistance in the preparation of an index of Volumes, I, II, and III, of the *Source Book of Rural Sociology*.
- 1,890.00 University group insurance of Adolph Erickson, the income to be used for social service in connection with the crippled children work of the Minnesota Hospital and Home Fund.
- 174.89 Reynold Johnson Memorial Fund. This fund was established by the Class of 1924 (Central School of Agriculture) and handled by the School of Agriculture until the meeting of the

Board of Regents on April 21, 1932, when it was accepted by the Board of Regents of the University of Minnesota.

Provision in the will of Max Toltz for the establishment of a \$15,000 permanent fund for the support of research in Engineering.

Provision in the will of John Charles Frizzell by which a trust fund of \$5,000 is created to be used for treating poor patients in the Out-Patient Department of the Hospital of the University of Minnesota.

Endowment Fund of the School of Nursing of the University of Minnesota in the amount of \$7,316 has been subscribed in the form of endowment pledges by some 197 of the alumni of the school. The income to be expended for the benefit of the University School of Nursing.

- \$ 125.00 From Dr. Frank E. Burch, equipment for the Department of Ophthalmology and Otolaryngology.
- 24.50 From the National Association of Nursing Education for clerical help for indexing minutes of the School of Nursing committee.

Additions to Previous Gifts

500.00 Vocational Service for Juniors.

312.09 Alumni Service Fund.

Miscellaneous Gifts

Presidential chair from the Class of 1931.

Two purebred Holstein cows from Mr. F. E. Murphy for the Division of Veterinary Medicine.

A collection of 833 mounted plant specimens from Dr. Thomas S. Roberts for the university herbarium.

135 portraits, *Messages Français*, from M. M. Manuel and M. Ed. Champion, Paris.

An *Electrical Engineering Handbook*, or its equivalent, from the Omicron Chapter of Eta Kappa Nu for the establishment of a prize to be awarded to the regular sophomore in Electrical Engineering who has maintained the highest scholastic standing during his first five quarters in residence at the University of Minnesota.

Four Ayrshire cows from Dr. Egil Boeckmann for the Division of Dairy Husbandry.

A pair of old French Buhr millstones from Mrs. Minnie E. Lee, Spring Lake Mills, Hastings, Minnesota, for the Division of Biochemistry.

A brooder from the Buckeye Incubator Company, Springfield, Ohio, for the Northwest School and Station, Crookston, Minnesota.

A memorial marker in the form of a natural granite boulder to which is attached a bronze tablet commemo-

rating the location of the "Old Main" building, from the Class of 1892.

Electrical laboratory apparatus and supplies from the Western Electric Company, Chicago, Illinois, for the Department of Electrical Engineering, the Department of Physics, and the School of Chemistry.

A voltage regulator from the General Electric Company for the Department of Electrical Engineering.

Aeroplane parts and equipment from the Detroit Aircraft Products Corporation for the Department of Aero-nautical Engineering.

Eight medal awards from the Central Co-operative Association for winners in livestock judging in the College of Agriculture and in the School of Agriculture, in horses, beef cattle, hogs, and sheep.

Original drawings of the "Old Main" building from Long and Thorshor, Inc.

Prize of a gold key from the Wulling Club to be awarded to that senior in the College of Pharmacy, who is candidate for graduation from the four-year course, who has earned, up to ten days before Cap and Gown Day, the second highest general average.

A set of pipes from Crane Company for the College of Engineering and Architecture.

The following gifts for the University High School from its classes:

- 8 groups of pictures
- 5 large pictures from classes previous to 1924
- 2 Holy Grail pictures
- 1 Oath of Knighthood from Classes of 1921 and 1922
- 10 pictures from Class of 1930
- 12 pictures from Class of 1931
- Victrola from Class of 1927
- Bust of Virgil from students in Latin in 1932
- Joan of Arc and base from student body of 1922
- Trophy case from student body of 1929
- Trophies—6 from students in 1929; 29 from students previous to 1929.

An airplane from Mr. and Mrs. George E. Gere for the Department of Aeronautical Engineering.

Books

\$50.00 From the District Grand Lodge No. 6, Independent Order B'nai B'rith for the purchase of books on Jewish reference subjects for the University Library.

50 volumes of an early edition of the British Poets to the library from Mr. and Mrs. Albert H. Crosby.

An engrossed copy of *The Creed of an American*, by John Tyler Page from M. C. A. Princell and Professor A. S. Levens for the College of Engineering.

17,315 gifts from 4,784 donors for the library.

Distinctive Honors Conferred upon Members of the Staff

Educational, Scientific, and Research Awards

Administration. President Lotus Delta Coffman was awarded the honorary degree of doctor of laws by the University of Michigan on June 22, 1931, at which time he delivered the annual commencement address there.

From October, 1931 to March, 1932, President Coffman traveled in Australia, New Zealand, and the Orient on an educational mission to the British Dominions already mentioned, as representative of the Carnegie Corporation of New York. His report was to have a bearing on the expenditure of the income of ten million dollars left by Mr. Andrew Carnegie to be spent on education in the British possessions.

Mr. William T. Middlebrook served as president of the Association of Business Officers of Minnesota Colleges during the year 1931.

The Graduate School. Dean Guy Stanton Ford, of the Graduate School, served as acting president of the University of Minnesota from October, 1931 to March, 1932, during President Coffman's absence in Australia and New Zealand. During the past biennium Dean Ford has also been honored by election as a senator of Phi Beta Kappa, by membership in the Commission for the Consolidation of Higher Institutions of Learning in North Carolina, by membership on the Commission of the Social Sciences in Secondary Schools and on its subcommittee dealing with objectives and teacher training, and by membership on the Policy Planning Committee of the American Historical Association.

College of Science, Literature, and the Arts. J. William Buchta, of the Department of Physics, was appointed assistant editor of the *Physical Review* and of the *Review of Modern Physics*.

Ralph D. Casey, head of the Department of Journalism, served as president of the Association of Schools and Departments of Journalism during 1931. He also is a member of a joint national group on standards for schools of journalism, in which teaching and editorial organizations have joined.

William H. Emmons, chairman of the Department of Geology, has served as a member of the Committee on Ore Deposits for the National Research Council Committee on Mining Geology, American Institute of Mining and Metallurgical Engineers and is associate editor of the *Journal of Geology*.

Frank F. Grout, of the Department of Geology, was elected chairman of the Committee on Batholiths of the National Research Council and was given charge of the expenditure of \$3,000 a year for the Rockefeller Laboratory for Rock Analysis; also an award of \$300, from the National Research Council, for testing of rock samples.

Richard Hartshorne, assistant professor in the Department of Geography, spent the year 1931-32 in Germany, Poland, and Czechoslovakia studying the boundary of Upper Silesia, under a grant from the Social Science Research Council.

Herbert Heaton, professor of economic history, spent the year 1931-32 in England on a John Simon Guggenheim Fellowship in economics.

Recognition of the standing as an anthropologist and

of the services to science of Dr. Albert E. Jenks, of the University of Minnesota, has been made in recent years by a group of distinguished Minneapolis business men. They have financed three expeditions by Dr. Jenks in each of which he sought to throw further light on the story of prehistoric man. The first and third of these expeditions were made to the Mimbres Valley of northern New Mexico, where his party made rich anthropological finds. In the summer of 1930, Dr. Jenks conducted anthropological explorations at several points in Algeria, North Africa. There he discovered a large amount of scientific material and added to his anthropological collections through purchase. When business conditions improve Dr. Jenks expects to renew his expeditions.

Donald G. Paterson, professor of psychology, was elected secretary of the American Psychological Association for 1931-32.

George M. Schwartz, of the Department of Geology, served as a member of the Committee on Ore Deposition of the National Research Council.

Colbert Searles, professor of Romance languages, was elected a member of the Council of the Modern Language Association.

John T. Tate, professor of physics, was appointed a member of the governing board of the American Institute of Physics, to serve for three years. He also was selected publications adviser for the American Institute of Physics.

George A. Thiel, of the Department of Geology, was elected chief of the editorial staff of *Annotated Bibliography of Economic Geology*, prepared under the auspices of the National Research Council.

George B. Vold, assistant professor of sociology, under a grant from the Social Science Research Council, made a study of the application of behaviorism in the treatment of criminals.

Malcolm M. Willey, professor of sociology, was on leave during a part of the year 1930-31 to serve on a subcommittee of President Hoover's Research Committee on Social Trends.

College of Engineering and Architecture. Ora M. Leland, dean, was elected national honorary member of Chi Epsilon, honorary civil engineering society.

Carl A. Herrick was elected treasurer and, later, vice-president of the Minnesota Federation of Architectural and Engineering Societies.

Frederick M. Mann was made a director of the American Institute of Architects.

John V. Martenis was elected supreme secretary-treasurer of the honorary mechanical engineering society, Pi Tau Sigma.

Frank B. Rowley, head of the engineering experimental laboratories, was elected president of the American Society of Heating and Ventilating Engineers.

School of Chemistry. Donovan E. Kvalnes was awarded a National Research Council Fellowship in Chemistry to study at Harvard University in the year 1932-33.

Isaac M. Kolthoff was elected vice-president of the Minnesota Chapter of Sigma Xi.

George H. Montillon was elected president of the Minnesota Section, American Chemical Society.

Department of Agriculture. Clyde H. Bailey was elected editor-in-chief of *Cereal Chemistry*, published by the American Association of Cereal Chemistry, 1924-31; member of the Executive Committee, Division of Agricultural and Food Chemistry, American Chemical Society; councilor, American Chemical Society (representing the Minnesota Section); and was awarded the Thomas Burr Osborne Gold Medal by the American Association of Cereal Chemists for outstanding achievements in research in the field of cereal chemistry, May, 1932.

Alice Biester was elected National President of Omicron Nu, 1931-33; and treasurer of Minnesota Chapter of Sigma Xi, 1931-33.

Clarence H. Eckles was elected honorary member of the Czechoslovak Academy of Agriculture, 1931.

Ross A. Gortner was elected chairman, Colloid Division of the American Chemical Society; member of the Division of Biology and Agriculture of the National Research Council, 1931-33; member of the Executive Committee, 1931-32; liaison member from the Division of Biology and Agriculture to the Division of Chemistry and Chemical Technology of the National Research Council, 1930-31; reappointed 1931-32; chairman of the American Committee on Biochemical Nomenclature, and American member of the International Committee on Biochemical Nomenclature organized under the International Union of Pure and Applied Chemistry; councilor-at-large of the American Chemical Society, 1932-34; president of the American Society of Naturalists for 1932; associate editor, *Journal of the American Chemical Society*; and associate editor, *Chemical Abstracts*.

Rodney B. Harvey was elected vice-president of the American Society of Plant Physiologists for 1931-32; and chairman of the Committee on Physical Methods, American Society of Plant Physiologists, 1930-31.

Frederick B. Hutt was elected vice-president of the Poultry Science Association for the year 1931-32; and fellow of the American Association for Advancement of Science.

Cornelia Kennedy was elected honorary member of the American Association of College Women's Club.

William P. Kirkwood was elected member of the Executive Committee of the American Association of Agricultural College Editors, was re-elected member of the Board of Trustees of Macalester College in 1931, and later appointed a member of the board's Committee on Instruction.

Clarence E. Mickel was elected member of the Editorial Board of *Annals of the Entomological Society of America*.

Leroy S. Palmer was elected member of the subcommittee on Assays and Standards for Vitamins A and D as applied to cod liver oil, of the General Committee of Revision of the Pharmacopoeia of the United States of America, 1930-31, of the Committee on Assays and Standards of Vitamins for the U. S. Pharmacopoeia, 1932.

William A. Riley was elected president of the American Society of Parasitologists.

Arthur G. Ruggles was elected member of the National

Plant Board; and member of the Advisory Committee of the Editorial Board of *Journal of Economic Entomology*.

W. Martin Sandstrom was elected secretary of the Minnesota Section of the American Chemical Society.

Elvin C. Stakman was appointed co-editor of the *Phytopathologische Zeitschrift*, (1930) the first and only American editor on the Editorial Board of this publication; appointed on a jury of award of the International Committee for Phytopathology and Economic Entomology (1929), jury selects the winners of a prize for the best memoirs submitted by original investigators on researches on the diseases and insect pests of plants; member of the Division of Biology and Agriculture of the National Research Council, 1931; and member of the Committee on Breeding for Rust Resistance, International Association of Plant Breeders, 1931.

Ashley V. Storm was invited by the Minnesota Historical Society to have his photographic portrait furnished them.

"As a person active and prominent in the present-day life of Minnesota, you will have a place in the history of the state, and we should like to include your photograph in this special collection of persons who have played a prominent part in the political, economic, and social life of the State in the past."

Medical School. Dr. Elexious T. Bell, professor of pathology, was elected president of the American Association of Pathologists and Bacteriologists for the year 1932.

Dr. A. J. Chesley, of the Department of Preventive Medicine and Public Health, was elected president of the American Public Health Association in 1930.

Dr. Harold S. Diehl, director of Preventive Medicine and Public Health, served as chairman of the Health Service Section of the National Conference on College Hygiene in 1931.

Mr. Paul H. Fesler, former superintendent of the University Hospital, was elected president of the American Hospital Association in 1930 and of the Minnesota State Hospital Association in 1931.

Dr. E. Starr Judd, of the Mayo Foundation, served as president of the American Medical Association in 1930.

Dr. Ruth Houlton, associate professor of preventive medicine and public health, was elected second vice-president of the National Organization for Public Health Nursing and a member of the Council of the Nursing Section of the American Public Health Association.

Dr. Grace Medes, of the School of Medicine, was awarded the \$250 prize of the Minnesota Society of Internal Medicine for research work.

Dr. William A. O'Brien, associate professor of pathology, was elected state chairman of the American Society for the Control of Cancer.

Dr. S. Marx White, professor of medicine, was elected president of the American College of Physicians in 1931.

Dr. Harold A. Whittaker, director of the Division of Sanitation, served as chairman of the Committee on Milk Production and Control of the White House Conference on Child Health and Protection, and as chairman of the Committee on Review of Opportunities of Sanitary Engi-

neers in Communicable Disease Control, Conference of State Sanitary Engineers.

Dr. Louis B. Wilson, of the Mayo Foundation, was elected national president of Sigma Xi for 1932-33.

College of Dentistry. William F. Lasby, dean, was elected president of the American Association of Dental Schools for the year 1932.

College of Pharmacy. Frederick J. Wulling, dean, was re-elected chairman of the scientific and practical section of the Minnesota State Pharmaceutical Association.

Gustav Bachman, professor of pharmacy, was elected to the National Formulary Revision Committee and elected secretary of the Minnesota State Pharmaceutical Association.

Earl B. Fisher, associate professor of ophthalmology and otology, was elected to the presidency of the National Plant Science Seminar.

School of Business Administration. Russell A. Stevenson, dean, was elected president of the American Association of University Instructors in Accounting for 1931-32; vice-president of the American Association of Collegiate Schools of Business for 1932; was made director of the Employment Stabilization Research Institute of the University of Minnesota.

Roy G. Blakey, professor of economics, was author of a report on taxation in West Virginia, following a study made by him at the request of the governor of that state. Mr. Blakey also conducted a survey of Minnesota taxation.

Alvin H. Hansen, professor of economics, conducted a round table discussion under the auspices of the Norman Wait Harris Foundation at the University of Chicago in January 1932, on "Gold and Monetary Stabilization."

Arthur W. Marget, professor of economics, participated in the discussion of the Norman Wait Harris Foundation at the University of Chicago on "Gold and Monetary Stabilization" in January 1932.

Roland S. Vaile, professor of marketing, was appointed to the Jury of Award for Bok Advertising Prizes at Harvard University, January 1931.

Robert M. Weidenhammer, assistant professor of economics, prepared a memorandum on "Cartels and Stabi-

lization" and on "A Federal Investment Board" for the President's Emergency Committee for Employment.

College of Education. Dora V. Smith, assistant professor of education, was elected to serve part time as specialist in secondary school English of the National Survey of Secondary Education.

University Library. Frank K. Walter, university librarian, was elected secretary of the American Library Institute for an indeterminate term. He also was elected chairman of the Periodicals Section of the American Library Association for 1932.

Department of Physical Education for Women. J. Anna Norris, director of the department, was elected a fellow in physical education of the American Physical Education Society, and a fellow in the American Academy of Physical Education.

Department of Physical Education and Athletics. Louis J. Cooke, professor of physical education for men, was elected as a fellow in physical education by the American Physical Education Association.

Military Department. Major William G. Guthrie, stationed at the University in charge of the Medical Unit of the R.O.T.C., was elected to fellowship in the American College of Surgery.

Institute of Child Welfare. John E. Anderson, director, was elected as a representative of the American Psychological Association on the Social Science Research Council and as a representative of the American Psychological Association on the Division of Anthropology and Psychology of the National Research Council. He also served as chairman of the Committee on Child Development of the National Research Council.

Marion L. Faegre, assistant professor of parent education, was selected as chairman of the Committee on the Exceptional Child of the National Congress of Parents and Teachers.

Josephine C. Foster, principal of the Nursery School and Kindergarten, was elected vice-president of the Association for Childhood Education to represent nursery schools.

Faculty Honors on Cap and Gown Day

Elizabeth Atkins, Mildred Boie, and Margaret Scallan were elected to Delta Phi Lambda, honorary society, to stimulate creative writing and promote literary arts among women.

Jean M. Boyer and Raymond L. Grismer were elected to Lambda Alpha Psi, organized for the recognition and encouragement of study in languages and literature.

Alexander A. Granovsky, Clayton O. Rost, and Elmer R. Clark were elected to Gamma Sigma Delta, honorary society in the College of Agriculture, Forestry, and Home Economics.

Henry E. Hartig and Elmer W. Johnson were elected to Eta Kappa Nu, honorary electrical engineering fra-

ternity, whose object is to obtain closer co-operation among students and others in the profession who manifest exceptional interest and marked ability in engineering.

Isaac M. Kolthoff and J. Lewis Maynard were elected to Phi Lambda Upsilon, national honorary society in chemistry.

Richard E. Scammon was elected to honorary membership in Alpha Omega Alpha, a non-secret, fourth year medical honor society.

Mary Allen Steers was elected to Omicron Nu, honorary society in the Department of Economics, for encouragement of high standards of scholarship and service, and to Iota Sigma Pi, honorary chemical society for women.

Public Service

Administration. Dean James C. Lawrence was on leave from the University from November 1930 until May 1931 to serve as a member of President Hoover's Emergency Committee for Employment in Washington, D.C. Dean Lawrence subsequently made a number of trips to Washington and also devoted time at home to that project.

William T. Middlebrook, comptroller, was appointed by Mayor Anderson to serve as a member of the Citizen's Advisory Committee on Public Utilities.

College of Science, Literature, and the Arts. Morris B. Lambie, of the Department of Political Science, and Frank M. Rarig, of the Department of Speech, were appointed to serve on Mayor Anderson's Advisory Committee on Public Utilities.

College of Engineering and Architecture. John D. Akerman assisted in the formulation of air navigation laws for the state of Minnesota.

Frederic Bass was made chairman of a special metropolitan drainage committee to report to the governor, chairman of a commission on the water supply of Minneapolis, and a member of the State Board of Health.

S. Chatwood Burton served as a member of the advisory committee of the American College Society of Print Collectors.

Alvin S. Cutler was made chairman of a special committee of engineers to study a problem of railroad and street grade separation in Minneapolis.

Henry E. Hartig was elected a member of the School Board of Robbinsdale, Minnesota.

Carl A. Herrick served as secretary of the Summer Session for Mathematics Teachers of the Society for the Promotion of Engineering Education.

Robert T. Jones was made a member of the Committee on Farm and Village Housing and the Committee on Home Information Centers of the President's Conference on Home Building and Home Ownership.

Fred C. Lang was made chairman of the Committee on Roads of the American Concrete Institute.

Ora M. Leland served as director of the Summer Session for Mathematics Teachers held at Minneapolis in 1931 under the auspices of the Society for the Promotion of Engineering Education and the University of Minnesota. He also served as chairman of the Committee on Student Chapters of the American Society of Civil Engineers and chairman of the Committee on Engineering Experiment Stations of the Association of Land Grant Colleges and Universities.

Frederick M. Mann served as president of the Minneapolis City Planning Commission; a member of the Committee on City and Regional Planning and the Judiciary Committee of the American Institute of Architects; a member of the National Council of Registration Boards; and of the National Advisory Council on School Building Problems.

George C. Priester was made a member of the Committee on Methods of Testing of the American Society for Testing Materials. He was also president of the Minne-

sota Section of the Society for the Promotion of Engineering Education.

Frank B. Rowley was made chairman of a Committee on Sound and Its Relation to Ventilation, American Society of Heating and Ventilating Engineers, and a member of a special committee on school planning and construction for the Minneapolis Board of Education.

Lorenz G. Straub was made chairman of the Committee on Dynamics of Streams for the American Geophysical Union of the National Research Council, and a member of the Advisory Committee on Reinforced Masonry Construction of the National Clay Manufacturers Association.

School of Chemistry. Isaac M. Kolthoff was elected national president of the Association of Cosmopolitan Clubs.

Samuel C. Lind was made a member of the National Advisory Health Council in co-operation with the U. S. Public Health Service, a member of the Committee on the Pure Science Award of the American Chemical Society, and a member of the Committee on the Weston Fellowship Award of the American Electrochemical Society.

Charles A. Mann served as chairman of the Committee on Student Chapters of the American Institute of Chemical Engineers.

Department of Agriculture. Walter C. Coffey, dean, was appointed member of the Committee on Farm and Village Housing of the President's Conference on Home Building and Home Ownership; member of Resolutions Committee appointed by the Conference on Land Utilization called by Secretary of Agriculture Arthur M. Hyde, in Chicago, 1931; and member of the Council Group on Live Stock Production and Meat Distribution created by the Federal Farm Board.

Albert C. Arny has acted as chairman of a committee appointed by the Flax Development Committee of members of the four northwest states, Minnesota, North and South Dakota, and Montana, to prepare flax facts for publication and to correlate the research studies with this important cash crop.

Ralph F. Crim was elected secretary-treasurer of the International Crop Improvement Association. This is in recognition of his leadership in developing methods of seed certification and the first distribution of seeds of newly recommended varieties by the Experiment Station to the farmer. In 1932 he was elected president of the International Crop Improvement Association which is composed of representatives of twenty-five state crop improvement associations and two Canadian societies.

Clarence H. Eckles represented the United States Government at the International Dairy Congress, Copenhagen, 1931, and served as chairman at one session of the congress.

Evan F. Ferrin was elected director and member of the Executive Committee of the National Swine Growers' Association; and official judge at the National Swine Show; and member of Council Group on Live Stock Production and Meat Distribution created by the Federal Farm Board.

Harriet Goldstein was appointed member of the Com-

mittee on House Furnishing and Decoration of the President's Conference on Home Building and Home Ownership.

Ross A. Gortner was the Wisconsin Alumni Foundation lecturer, University of Wisconsin, 1930; Phi Kappa Phi lecturer, Recognition Assembly, North Dakota Agricultural College, May 1931; lecturer at Cornell University under the George Fisher Baker Foundation, May 1932.

Herbert K. Hayes aided in organizing the International Genetics Congress to be held at Ithaca, New York, August, 1932, as a member of the Finance Committee, as chairman of a subcommittee on wheat and flour products and in charge of an exhibit on the work of state crop improvement associations.

Oscar B. Jesness was extended an invitation by Joseph Davis of the Federal Farm Board to meet with a small group of agricultural economists to consider some aspects of the board's program; and asked by the American Institute of Co-operation to prepare and present at the institute's sessions at Manhattan, Kansas, an evaluation of the Federal Farm Board's program as it relates to grain.

Walter H. Peters was appointed official judge at the National Belgian Horse Show, Waterloo, Iowa, 1930.

Harry B. Roe was appointed chairman of the Meeting Committee for the American Society of Agricultural Engineers for the silver anniversary meeting at Ames, Iowa, 1931.

Arthur C. Smith, was elected ex-officio member of the Poultry Improvement Board provided by the last legislature; elected president of the Minnesota State Poultry Improvement Board; secretary-treasurer of the Minnesota State Poultry Breeders' Association; vice-president of the Minnesota State Poultry Association; and member of the Educational Committee for the American Poultry Association.

Ashley V. Storm was appointed member of the National Council of Boy Scouts of America.

Lucy Studley was appointed research chairman for the

Homemaking Department of the American Home Economics Association.

The Law School. Everett Fraser, dean, was appointed by Mayor Anderson to serve as a member of the Citizen's Advisory Committee on Public Utilities.

School of Business Administration. Russell A. Stevenson, dean, was made chairman of the Tri-City Employment Stabilization Committee for Minneapolis, St Paul, and Duluth. He also was made a member of the committee that conducted a survey of business education for the Commission on University Consolidation in North Carolina.

Roy G. Blakey served as a member of the Finance Committee of the Minneapolis Survey Commission and as a member of the Minneapolis Tax Commission; he also was appointed a member of the Citizen's Advisory Committee on Public Utilities.

Benjamin W. Palmer, lecturer in business law, was elected a member of the Library Board of the City of Minneapolis, was appointed chairman of the Minnesota State Commission for the Celebration of the Washington Bicentennial, and was appointed a member of the new Minneapolis Charter Commission.

Institute of Child Welfare. John E. Anderson, director, was appointed by President Hoover as chairman of the Committee on Education and Training of the Infant and Preschool Child of the White House Conference on Child Health and Protection and was also appointed by Governor F. B. Olson to serve as chairman of a similar committee for the Minnesota Conference on Child Health and Protection.

Extension Division. Haldor B. Gislason, head of the Department of Community Service, was appointed by Mayor Anderson to serve as a member of the Citizens' Advisory Committee on Public Utilities.

Buildings and Grounds

Land and Buildings

Land. During the past two years additions to the main campus were made by the purchase of the following properties:

1. From Susie M. Chase on July 3, 1930, all that part of Lot 10 and the southeasterly $\frac{1}{2}$ of Lot 9, Block N, Tuttle's Addition to Saint Anthony which lies southerly of a line drawn parallel with and distant 50 feet southerly when measured at right angles from the center line between the double track main line of the Northern Pacific Railway Company as the same is now constructed and operated.

2. From Thomas and Elizabeth McGill on January 6, 1931, Lot 5, except the rear of southerly 40 feet thereof, in Block 46, Saint Anthony City (now a part of the City of Minneapolis) according to the plot thereof on file (Hennepin County).

3. From Jeanette L. Ware on January 16, 1931, commencing at the northeast corner of Lot 2, thence south 49 5/10 feet, thence westerly 115 feet, thence southerly 82 5/10 feet, thence westerly 10 feet, thence northerly 125 feet, thence westerly 40 feet, thence northerly 7 feet to northwest corner of said Lot 2, thence easterly to beginning, and west 50 feet and the south 13 5/10 feet of east 115 feet of Lot 3, Block 18, Saint Anthony City (Hennepin County).

4. From Alfred Anderson on June 19, 1931, westerly 40 feet of the easterly 80 feet of Lot 10, Block 14, Saint Anthony City (Hennepin County).

5. Westerly 24 feet of Lot 3 and all of Lot 4, Block 45, Saint Anthony City (Hennepin County).

6. Triangular portions of Lots 8 and 9, Block N. Tuttle's Addition to St. Anthony (Hennepin County).

The following tract of land was purchased for an addition to the fruit breeding farm at Zumbra Heights:

7. Lot 7, Sec. 8 and the SW $\frac{1}{4}$ of SW $\frac{1}{4}$, Sec. 9 and the NW $\frac{1}{4}$ of NW $\frac{1}{4}$ Sec. 16, Township 116, Range 23 (Carver County).

Land Improvements

Main campus. Many improvements have been made on the main campus during the past two years. Those deserving special mention are as follows:

The landscaping of the area between the old Dentistry Building and the Library.

The grading, seeding, installation of new sidewalks and shrubbery between Millard Hall and the Institute of Anatomy and around the new Medical Science Building.

Landscaping was completed around the Physics Building, Law Building, and Botany Building.

The houses formerly located at 321 and 323 Church Street were removed to 616 Beacon Street and 220 Walnut Street, respectively, and the old flat buildings at 413 and 417 Delaware were torn down, thus clearing the site for the new Medical Science Building.

The house at 500 Essex Street was torn down to clear the site for the new Nurses' Home.

The area west of Sanford Hall was leveled off and seeded.

The new road south of the Medical Science Building, connecting Church Street and Union Street was paved, as was also the roadway forming the court at the Hospital.

Farm campus. On the Farm campus Buford Avenue was paved from Cleveland Avenue past the Stock Pavilion.

The old trolley switch track leading to the cold storage plant was taken up.

A new street lighting system has been installed along Shady Lane and Buford Avenue from Cleveland Avenue to the street car line.

New Buildings and Tunnels

Main campus. During the past two years two major buildings have been constructed on the main campus, viz., Pioneer Hall and the Medical Science Building.

Pioneer Hall is a dormitory for men students. It is shaped much like a block letter C and is four stories high, of colonial architecture.

This building is of fireproof construction and is unique in that it is composed of eight separate houses, each housing thirty-two students. It is complete in every detail with a kitchen, dining room, lounge, and a clubroom. The students' quarters are mostly composed of suites of rooms, two bedrooms, and a study room. It should be an ideal place for students.

The Medical Science Building was constructed primarily to house the College of Dentistry. This building is 242 feet long by 70 feet wide, 3 stories high with a full basement and an unfinished roof house. It is of fireproof construction and was built as the southwest wing to Millard Hall. The administrative offices of the Medical School as well as those of the School of Dentistry are housed in this building.

This building is considered the very best possible type

for work in dentistry. The dental clinic room is worthy of special mention. It is approximately 190 feet long, 43 feet wide, and 26 feet high and will accommodate 125 dental chairs. The windows are full 2 stories high in order to provide good light to the back row of chairs. Ample classroom space is also provided as well as laboratories, offices, etc.

The deep tunnel extending from the hospital shaft to Pioneer Hall was constructed. The tunnel carries the main heating lines to this dormitory.

Farm campus. The only major structure erected on the Farm campus during the past two years is the Farm Crop Field House for the Division of Agronomy. This structure is 81 feet long by 42 feet wide and is 2 stories high. It is mostly of frame construction with a stucco exterior. However, the drying ovens and stacks are of fireproof construction. This building has a threshing room, grain storage rooms, cleaning rooms, etc. It was designed by the staff of the Department of Buildings and Grounds with the assistance of the Division of Agronomy.

Zumbra Heights. The new office and laboratory for the fruit breeding farm was well under way by the end of June, 1932. This building will be 49 feet long by 30 feet wide with a full basement. It will be full 2 stories high, of frame and stucco construction. There will be in this building a fruit storage room, photo laboratory, fireproof vault for valuable records, a main office, and several fine laboratories. This building was also designed by the Department of Buildings and Grounds.

Building improvements and alterations. Besides the customary amount of necessary maintenance which includes interior decorating, painting, miscellaneous roof and gutter repairs, steam lines, electrical work, etc., the following major alterations deserve special mention:

Main Campus Work

The old amphitheater in the Psychology Building was torn out and several research rooms constructed in the space available.

The third floor of the new Physics Building was completely finished and provides ample room for the study of optics and also houses the administrative offices of the Department of Astronomy.

In Northrop Memorial Auditorium, the space for offices on the first, second, and third floors, has all been partitioned and the offices are now occupied.

The space in the subbasement of the Zoology Building has been made available by the installation of partitions and a good concrete floor. New roofs have been installed on Alice Shevlin Hall, on the Women's Gymnasium, and over a portion of the Anatomy Building.

A passageway was constructed from the Botany Building to the Botany greenhouses which adds greatly to the efficiency of the Botany Department, especially during the winter months.

Money has been set aside for the remodeling of the old Dentistry Building. This will be done just as soon as the new Dentistry Building is occupied.

Shafts No. 1 and 2, leading to the deep tunnel were

enlarged and lined with reinforced concrete so that they are now ample in size and are waterproof.

The heating systems in the Pharmacy Building and in the Psychology Building have been completely overhauled. New radiators have been installed with temperature control, so that they now operate very efficiently.

Weatherstrips were installed on Shevelin Hall and the Armory.

The elevators in the Storehouse and Shops Building, in Millard Hall, in Anatomy and in the Library have all been modernized.

The following buildings have been largely painted throughout the inside: Pharmacy, Folwell Hall, Main Engineering, Armory, Chemistry, Millard Hall, Anatomy, Law, Botany, Physics, Psychology, School of Mines and Metallurgy.

New electric fixtures have been installed in Shevelin Hall, Psychology, Jones Hall, Millard Hall, Main Engineering, and Anatomy.

Farm Campus Work

The old wooden stairway in the Horticulture Building was replaced with a fireproof one, and new floors were installed in nearly all the rooms of the building.

The basement of the Administration Building was cleaned out, cement floors installed, and then the space divided off for laboratories for the Division of Entomology. This has greatly added to the efficiency of the work in that division. The old wooden floor in the post-office was replaced by one of terrazzo.

An adequate ventilating system has been installed in the Farm Gymnasium.

A modern cooling room was installed in the meat house.

New roofs were installed on the Dairy Barn, Horse Barn, Meat House, and the Gymnasium.

Boilers No. 1 and 2 in the farm heating plant were completely overhauled, new air-cooled walls installed, the stokers removed and these were replaced with pulverized fuel apparatus. This has greatly increased the efficiency of the heating plant.

The following buildings have been largely repainted throughout the inside: Administration, Haecker Hall, Old Dairy, Botany, Horticulture, and the Gymnasium.

A considerable amount of outside painting on the various barns and sheds has also been done.

A new 12-inch well, 625 feet deep, has been dug and equipped with a centrifugal pump and this supplies the Farm campus with water. The entire installation is very efficient and has produced great savings in the water bill.

At Crookston the Kiehle Building has been completely remodeled, and now houses the administrative offices, a fine library, and a beautiful auditorium.

At Morris a new sewer line was installed connecting our station with the municipal sewage disposal plant. Also a new watermain was installed so as better to protect this station in case of fire.

At Waseca several of the barns were repainted. A new roof was installed on the cattle barn and a large concrete feeding platform installed.

At Duluth, the main approach to the buildings has been beautifully landscaped.

Changes in the Faculties

Appointments, 1930-31

Professors

Alfred L. Burt as professor of history beginning with the year 1930-31
B.A. 1910, University of Toronto; B.A. 1912, M.A. 1916, Oxford University (England).

Aage Brusendorff as visiting professor of Scandinavian languages for 1930-31
M.A. 1916, Ph.D. 1925, University of Copenhagen (Denmark).

Hugh Cabot as professor of surgery on Mayo Foundation beginning July 1, 1930
B.A. 1894, M.D. 1898, Harvard University; LL.D. 1925, Queens College (Ireland).

Ralph D. Casey as professor and chairman of the Department of Journalism beginning with the year 1930-31
B.A. 1913, M.A. 1924, University of Washington; Ph.D. 1929, University of Wisconsin.

Clarence C. Crawford as professor of history for 1930-31
B.A. 1903, M.A. 1904, University of Kansas; Ph.D. 1906, University of Wisconsin.

Katharine J. Densford as professor of nursing and director of School of Nursing beginning September 16, 1930.
B.A. 1914, Miami University; M.A. 1915, University of Chicago.

George Filipetti as professor in the School of Business Administration beginning with the year 1930-31
B.S. 1916, Ph.D. 1925, Columbia University; M.A. 1921, Washington University (St. Louis).

James Frenkel as professor of theoretical physics beginning with the year 1930-31
Magister of Physics, 1917, University of Petersburg.

Ragnar A. K. Frisch as visiting professor in the School of Business Administration for the spring quarter of 1930-31
Ph.D. 1926, University of Oslo.

Max S. Handman as professor of sociology beginning with the year 1930-31
B.A. 1907, University of Oregon; Ph.D. 1917, University of Chicago.

Irvine McQuarrie as professor and head of the Department of Pediatrics beginning with the year 1930-31
B.A. 1915, University of Utah; Ph.D. 1919, University of California; M.D. 1921, Johns Hopkins University.

Kenneth E. Olson as professor of journalism beginning with the year 1930-31
 B.A. 1920, M.A. 1928, University of Wisconsin.

Edward A. Ross as professor of sociology for the spring quarter of 1930-31
 B.A. 1886, Coe College; Ph.D. 1891, Johns Hopkins University.

Associate Professors

Fritz S. Bodenheimer as visiting associate professor of entomology and economic zoology for the spring quarter of 1930-31
 Dr. Phil. 1921, University of Bonn.

Alexander A. Granovsky as associate professor of entomology and economic zoology for the year 1930-31
 B.S. 1918, Colorado State Agricultural College; M.S. 1923, Ph.D. 1925, University of Wisconsin.

Clifford Kirkpatrick as associate professor of sociology beginning with the year 1930-31
 B.A. 1920, M.A. 1922, Clark University; Ph.D. 1925, University of Pennsylvania.

Charles E. Lively as associate professor of rural sociology in Agricultural Experiment Station for 1930-31
 B.A. 1917, M.A. 1918, University of Nebraska.

Hobart A. Reimann as associate professor of medicine beginning with the year 1930-31
 M.D. 1921, University of Buffalo.

Lorenz G. Straub as associate professor of mathematics and mechanics beginning with the year 1930-31
 B.S. Civil Engineering 1923, M.S. Civil Engineering 1924, Ph.D. Engineering 1927, Civil Engineer 1930, University of Illinois.

Gertrude Vaile as associate professor of sociology and associate director of the Training Course for Social and Civic Work beginning with the year 1930-31
 B.A. 1900, Vassar College; M.A. 1930, University of North Carolina.

James S. Webb as associate professor of radio engineering beginning with the year 1930-31
 B.S. 1917, Valparaiso University; M.S. 1926, Chicago University.

Assistant Professors

Herbert A. Carroll as assistant professor in the College of Education beginning with the year 1930-31
 B.A. 1923, Bates College; M.A. 1928, Brown University; Ph.D. 1930, Columbia University.

Ralph Cassady, Jr. as assistant professor in the School of Business Administration for 1930-31
 B.S. 1924, M.S. 1927, Ph.D. 1930, University of California.

Edward Cathcart as assistant professor of urology on the Mayo Foundation for three years beginning with the year 1930-31
 B.A. 1917, Hope College; M.D. 1921, University of Michigan; M.S. in Urology 1926, University of Minnesota.

Lyle A. Churchill as assistant county agent leader with rank of assistant professor in agricultural extension from November 1, 1930 to June 30, 1931
 B.S. 1922, University of Minnesota.

Captain William A. Ellis as assistant professor of military science and tactics beginning with the year 1930-31.

Arthur E. Engebretson as animal husbandry specialist with rank of assistant professor in agricultural extension beginning September 16, 1930
 B.S. 1916, University of Minnesota.

Arthur R. Ford as assistant professor of mechanical engineering for 1930-31

B.S. Mechanical Engineering 1918, M.S. Mechanical Engineering 1929, Massachusetts Institute of Technology.

Edna E. Fowler as assistant professor of home economics for 1930-31

B.A. 1923, University of Washington; M.A. 1924, Columbia University.

Major William G. Guthrie as assistant professor of military science and tactics beginning with the year 1930-31
 B.A. 1908, University of Kansas; M.D. 1910, University of Vermont.

Edward L. Hill as assistant professor of theoretical physics for three years beginning with the year 1930-31
 B.S. 1925, Ph.D. 1928, University of Minnesota.

Irving W. Jones as assistant professor in General Extension Division beginning September 16, 1930
 Ph.B. 1916, University of Wisconsin.

Lou Kennedy as assistant professor, Department of Speech, for 1930-31
 B.A. 1911, University of Iowa; M.A. 1922, Stanford University; Ph.D. 1930, University of Wisconsin.

Captain Emil Krause as assistant professor of military science and tactics beginning with the year 1930-31.

Willem J. Luyten as assistant professor of astronomy beginning with the spring quarter of 1930-31
 B.A. 1918, University of Amsterdam (Holland); M.A. 1920, Ph.D. 1921, University of Leiden (Holland).

Stanley R. Maxeiner as assistant professor of surgery beginning July 1, 1930
 M.D. 1909, University of Minnesota; Fellow American College of Surgeons.

Frank G. McCormick as assistant professor of physical education and athletics for 1930-31
 B.A. 1917, LL.B. 1920, University of South Dakota.

Harley J. McKee as assistant professor of architectural design for 1930-31
 B.S. 1926, M.A. 1929, University of Illinois; Brevet d'Histoire d'Art de la Sorbonne. 1930, University of Paris.

Frederick L. Pfeiffer as assistant professor of German for 1930-31
 Baccalaureate degree, 1917, Oberreal College (Frankfurt-main); Ph.D. 1922, University of Zurich, Switzerland.

Lieutenant Hewitt W. Richmond as assistant professor of military science and tactics beginning with the year 1930-31.

Emerson P. Schmidt as assistant professor in the School of Business Administration for 1930-31
 B.A. 1923, North Central College; M.A. 1924, University of Toronto.

Harold H. Shepard as assistant professor of entomology and economic zoology beginning with April 1, 1931
 B.S. 1924, Ph.D. 1931, Massachusetts Agricultural College; M.S. 1927, University of Maryland.

W. Bruce Silcox as extension specialist in marketing with rank of assistant professor, Agricultural Extension, beginning October 1, 1930
 B.S. 1923, Ontario Agricultural College (University of Toronto); M.S. 1925, Iowa State College.

Roscoe C. Webb as assistant professor of surgery beginning July 1, 1930
 B.A. 1911, University of Minnesota; M.D. 1914, Johns Hopkins University.

Edgar B. Wesley as assistant professor, College of Education, for the winter and spring quarters of 1930-31
 B.A. 1914, Baldwin-Wallace College; M.A. 1925, Ph.D. 1929, Washington University (St. Louis).

Professorial Lecturers

Harold R. Benjamin as professorial lecturer in the College of Education from January 1 to March 31, 1931, and as professor of education for 1931-32
 B.A. 1920, M.A. 1924, University of Oregon; Ph.D. 1927, Stanford University.

Lucy Heathman as professorial lecturer in preventive medicine and public health beginning March 1, 1931
 B.S. 1919, Ph.D. 1930, University of Kansas.

Lecturers

Starke R. Hathaway as lecturer in psychology for 1930-31
 B.A. 1927, M.A. 1928, Ohio University.

Appointments, 1931-32

Dean

Richard E. Scammon as dean of the medical sciences and professor of anatomy beginning with the year 1931-32
 B.S. 1904, M.A. 1906, University of Kansas; Ph.D. 1909, Harvard Medical School.

Assistant Dean

Harold Benjamin as assistant dean in College of Education for 1931-32
 B.A. 1920, M.A. 1924, University of Oregon; Ph.D. 1927, Stanford University.

Professors

Bernard W. Bierman as professor of physical education and athletics and head football coach beginning December 16, 1931
 B.A. 1916, University of Minnesota.

Edward A. Boyden as professor of anatomy from June 1 to 30 and beginning with the year 1931-32
 B.A. 1909, M.A. 1911, Harvard University; Ph.D. 1916, Harvard Medical School.

Robert W. Murchie as professor of rural sociology beginning with the year 1931-32
 M.A. 1906, Glasgow University (Scotland); Ph.D. 1927, University of Minnesota.

Didrik A. Seip as visiting professor in Norwegian from September 28 to December 10, 1931
 M.A. 1911, Ph.D. 1916, University of Oslo, Norway.

Russell M. Wilder as professor of medicine on Mayo Foundation beginning October 1, 1931
 B.S. 1907, Ph.D. 1912, University of Chicago; M.D. 1913, Rush Medical College.

Carrington B. Williams as visiting professor of entomology and economic zoology from March 16 to June 15, 1932.

Assistant Professors

Ira D. Beals as assistant professor of architecture for 1931-32
 B.S. 1927, M.A. 1928, Massachusetts Institute of Technology.

Captain Hammond D. Birks as assistant professor of military science and tactics beginning November 9, 1931.

Ralph E. Brewer as assistant professor in School of Chemistry for 1931-32
 B.A. 1917, Simpson College; M.S. 1920, Purdue University.

Russell E. Gibbs as assistant professor of mechanical engineering for 1931-32
 B.S. 1929, Purdue University.

Raymond L. Grismer as assistant professor of Romance languages for 1931-32
 B.A. 1916, University of Vermont; M.A. 1922, Ohio State University; Ph.D. 1930, University of California.

George E. Hudson as assistant professor of obstetrics and gynecology for 1931-32
 B.A. 1922, Mount Allison University (New Brunswick); M.D. 1926, Harvard University.

Major Theron G. Methven as assistant professor of military science and tactics beginning with the year 1931-32
 B.A. 1914, University of Minnesota.

A. Dale Riley as assistant professor of speech and director of dramatics for 1931-32
 B.A. 1912, Cornell University; M.A. 1930, University of Iowa.

James J. Ryan as assistant professor of mechanical engineering for 1931-32
 B.S. 1925, University of Iowa; M.S. 1929, University of Pittsburgh.

Michael A. Sadowsky as assistant professor of mathematics and mechanics for 1931-32
 Diplom-Ing 1927, Technische Hochschule Berlin and Universitat Berlin; Doktor-Ingenieur 1927, Technische Hochschule Berlin and Universitat Berlin.

Calvin F. Schmid as assistant professor of sociology for 1931-32
 B.A. 1925, University of Washington; Ph.D. 1930, University of Pittsburgh.

Joseph R. Starr as assistant professor of political science beginning with the year 1931-32
 B.A. 1926, University of Nebraska; M.A. 1927, Ph.D. 1930, University of Minnesota.

Thomas Ziskin as assistant professor of medicine beginning July 1, 1931
 M.D. 1911, University of Minnesota.

Professorial Lectures

Charles Hallberg as professorial lecturer in history for 1931-32

B.S. 1923, Trinity College (Hartford, Conn.); M.A. 1924, Ph.D. 1931, Columbia University.

Charles B. Kuhlmann as professorial lecturer in history for 1931-32

B.A. 1906, University of Wisconsin; M.A. 1920, Ph.D. 1924, University of Minnesota.

R. M. Langer as professorial lecturer in physics for 1931-32

M.A. 1922, Columbia University; Ph.D. 1926, California Institute of Technology.

Charles E. Remy as professorial lecturer in preventive medicine and public health beginning February 1, 1932

M.D. 1910, University of Nebraska.

Director of the Junior College of the University

Malcolm S. MacLean as director of the Junior College of the University beginning February 10, 1932

B.A. 1916, University of Michigan; Ph.D. 1926, University of Minnesota.

Leaves of Absence, 1930-31

Francis B. Barton, professor of Romance languages, sabbatical furlough for 1930-31 for study abroad.

Frank E. Burch, professor and head, Division of Ophthalmology and Oto-laryngology, without salary from June 16 to September 15, 1931.

Frederic B. Garver, professor in School of Business Administration, sabbatical furlough for 1930-31, for travel and study abroad.

Everhart P. Harding, professor in School of Chemistry, sabbatical furlough from October 16, 1930 to June 30, 1931.

William H. Hunter, professor in School of Chemistry, with salary from May 1 to June 30, 1931, on account of illness.

August C. Krey, professor of history, without salary for 1930-31, to serve as chairman of Commission on History and the Social Sciences in the Schools.

Frederick W. Luehring, professor of physical education for men, sabbatical furlough for 1930-31, for graduate work at Teachers College, Columbia University.

Charles A. Mann, professor of chemical engineering, with salary for spring quarter of 1930-31, on account of illness.

Paul E. Miller, professor and superintendent of West Central School and Station, with salary from May 16 to June 15, 1931, for travel in Europe studying agricultural conditions.

William A. Riley, professor and head, Department of Zoology, sabbatical furlough for 1930-31.

Charles H. Rogers, professor of pharmacy, sabbatical furlough for spring quarter of 1930-31, for travel and study abroad.

Martin B. Ruud, professor of English, sabbatical furlough for 1930-31, for travel and study abroad.

William T. Ryan, professor of electrical engineering, sabbatical furlough for 1930-31 for study and travel abroad.

Joseph M. Thomas, professor of English, sabbatical furlough for 1930-31, for study in France.

Albert B. White, professor of history, without salary for 1930-31.

Malcolm M. Willey, professor of sociology, without salary for winter quarter of 1930-31, for work on President Hoover's Research Committee on Social Trends.

William A. Grey, associate professor of dentistry, without salary from August 1, 1930 to June 30, 1931.

Edna Heidbreder, associate professor of psychology, sabbatical furlough for 1930-31 for travel and study abroad.

Gertrude Hull, associate professor of music, with salary from November 12 to December 31, 1930, on account of illness.

Roy C. Jones, associate professor of architecture, without salary for 1930-31 in order to make a study of architectural education in the United States and Canada under the auspices of the Carnegie Corporation and the Association of Collegiate Schools of Architecture.

Richard S. Maybury, associate professor of dentistry, without salary from November 16, 1930 to March 31, 1931, on account of illness.

Harold R. Searles, dairy specialist with rank of associate professor, agricultural extension, with salary from December 23, 1930 to January 26, 1931, on account of illness.

Carle C. Zimmerman, associate professor, Agricultural Experiment Station, without salary for 1930-31 to go to Siam to conduct a study and to write a report dealing with the possibilities for redirecting the work of the foreign missionaries and possibly some phases of the local government so far as they affect the social and economic life of the people.

Raymond W. Allard, assistant professor, School of Mines and Metallurgy, without salary for 1930-31.

Elizabeth Atkins, assistant professor of English, without salary for spring quarter of 1930-31, on account of illness.

Raymond N. Bieter, assistant professor of pharmacology, without salary for 1930-31, to accept position at Johns Hopkins Medical School.

Bryng Bryngelson, assistant professor of speech, without salary for 1930-31, for graduate work at the University of Iowa.

Eula B. Butzerin, assistant professor of preventive medicine and public health, sabbatical furlough for 1930-31 for study for Master's degree and travel abroad.

Henry C. T. Eggers, assistant professor of drawing and descriptive geometry, sabbatical furlough for 1930-31 for graduate study.

Marion L. Faegre, assistant professor in Institute of Child Welfare, without salary from April 1 to June 15, 1931, for editorial work on final reports of the White House Conference on Child Health and Protection.

Elizabeth G. Gardiner, assistant professor of sociology, without salary for spring quarter of 1930-31.

Edwin A. Hanson, dairy specialist with rank of assistant professor, agricultural extension, with salary from December 30, 1930 to February 2, 1931, on account of illness.

Kate Hevner, assistant professor of psychology, without salary from May 16 to June 30, 1931, to develop tests of musical appreciation with the assistance of the Department of Psychology at the University of Oregon.

Robert S. Hilpert, assistant professor of art education, sabbatical furlough for 1930-31 for study at Columbia University.

Inez M. Hobart, nutrition specialist with rank of assistant professor, with salary from February 2 to March 20 and without salary from March 21 to May 21, 1931, on account of illness.

Orville M. Kiser, assistant professor, Northwest School and Station, sabbatical furlough from October 1, 1930 to June 30, 1931, for study for Master's degree at the University of Minnesota.

George A. Montelius, assistant professor of dentistry, without salary for 1930-31, for teaching and research work in Peking Union Medical School.

Elizabeth Nissen, assistant professor of Romance languages, sabbatical furlough for 1930-31, for travel and study abroad.

Wesley E. Peik, assistant professor in College of Education, without salary for spring quarter of 1930-31, to accept an appointment on National Survey of the Education of Teachers.

Harold G. Russell, head, Order and Binding Department of University Library, and assistant professor, with salary from August 3 to 30, 1930, on account of illness.

Robert M. Weidenhammer, assistant professor in School of Business Administration, without salary for winter and spring quarters of 1930-31, to accept position with Foreman State Corporation of New York City to study investment banking practices.

Henry G. Zavoral, assistant professor in agricultural extension, without salary for 1930-31, to develop a system of swine production on land holdings for the Russian Soviet Government.

Leaves of Absence, 1931-32

Leon E. Arnal, professor of architecture, sabbatical furlough for 1931-32 for study abroad.

William S. Cooper, professor of botany, sabbatical furlough for 1931-32 for completion of field work on sand dune of Pacific Coast and field work in southeastern states in preparation for book on forest geography of North America.

Darrell H. Davis, professor of geography, sabbatical furlough for spring quarter of 1931-32 for study abroad.

Katharine J. Densford, professor and director of School of Nursing, without salary from June 20 to July 22, 1932 to give a course in nursing at the University of Chicago.

Henry A. Erikson, professor and chairman of Department of Physics, with salary for winter quarter of 1931-32 on account of his health.

Florence L. Goodenough, professor of Institute of Child Welfare, sabbatical furlough for 1931-32 for writing and travel.

Herbert Heaton, professor of history, sabbatical furlough from close of Summer Session, 1931 to beginning of fall term of 1932-33 to study and travel in Europe.

Jesse F. McClendon, professor of physiology, without salary from April 1, 1932 to March 31, 1933 to accept a position as visiting professor at Tohoku Imperial University at Sendai, Japan.

Harold S. Quigley, professor of political science, sabbatical furlough for fall quarter of 1931-32 for travel and research in China.

Ruth Raymond, professor of art education, sabbatical furlough for 1931-32 for writing and study.

Carlos V. Arjona, associate professor, Romance languages, sabbatical furlough for 1931-32 for research work in Romance literature.

Esther McGinnis, associate professor in Institute of Child Welfare, without salary for 1931-32 to accept a one-year appointment as field worker in child development and parent education for American Home Economics Association.

Julia O. Newton, state leader, home demonstration with rank of associate professor in agricultural extension, with salary from January 28 to April 15, 1932, on account of illness.

Wesley E. Peik, associate professor in the College of Education, without salary for spring quarter of 1931-32 for work on National Survey of the Education of Teachers by the Department of Interior, Washington, D.C.

William L. Cavert, farm economist with rank of assistant professor in agricultural extension, without salary from August 16 to 22, 1931, for rest.

Elmer R. Clark, assistant professor, Northwest School and Station, Crookston, sabbatical furlough for 1931-32 to study for Master's degree at University of Minnesota.

Richard Hartshorne, assistant professor of geography, sabbatical furlough for 1931-32 to accept a Social Science Research Fellowship.

Alfred L. Harvey, assistant professor of animal husbandry, sabbatical furlough from September 16, 1931 to June 15, 1932, for graduate work at Iowa State College of Agriculture.

Lewis B. Hessler, assistant professor of English, sabbatical furlough for 1931-32 for study abroad.

Kate Hevner, assistant professor of psychology, without salary for spring quarter of 1931-32 to develop tests of musical appreciation assisted by Department of Psychology and the School of Music of University of Oregon.

May S. Kissock, assistant professor of physical education for women, without salary for fall quarter of 1931-32 for travel, study, and rest.

Dorothea D. Kittredge, assistant professor in agricultural economics, without salary for 1931-32 for study.

Walter M. Lauer, assistant professor in School of Chemistry, sabbatical furlough for 1931-32 for study abroad.

Julius Romness, assistant professor in agricultural engineering, without salary from July 1 to August 31, 1931, to assist Minnesota State Board of Health in inspection work on water supply and sanitation.

Alice H. Tolg, assistant professor of physical education for women, sabbatical furlough for 1931-32 for graduate work at Johns Hopkins University and travel abroad.

George B. Vold, assistant professor in sociology, without salary, for 1931-32 to accept a Social Science Research Fellowship.

Henry G. Zavoral, animal husbandry specialist with rank of assistant professor in agricultural extension, continuation of leave without salary from September 16 to October 15, 1931 to visit some of the leading livestock countries in Europe.

Resignations, 1930-31

Solon J. Buck, professor of history, effective at close of 1930-31.

Charles A. Prosser, professor of industrial education, effective April 1, 1931.

Frank E. Balmer, associate professor of agricultural extension, effective November 16, 1930.

William A. Grey, associate professor in College of Dentistry, effective at close of 1930-31.

Raymond W. Allard, assistant professor in School of Mines and Metallurgy, effective at close of 1930-31.

Rewey Belle Inglis, assistant professor in University High School, effective at close of 1930-31.

Lloyd B. Jensen, assistant professor on Mayo Foundation, effective October 1, 1930.

George A. Montelius, assistant professor in College of Dentistry, effective at close of 1930-31.

Paul S. Parker, assistant professor in College of Dentistry, effective at close of 1930-31.

Herman A. Rodenhiser, assistant professor of plant pathology and botany, effective October 1, 1930.

Allan F. Saunders, assistant professor of political science, effective at close of 1930-31.

August L. Strand, assistant professor of entomology and economic zoology, effective April 1, 1931.

William H. von Lackum, assistant professor on Mayo Foundation, effective October 1, 1930.

Carle C. Zimmerman, assistant professor of rural sociology, effective at close of 1930-31.

Resignations, 1931-32

Herbert O. Crisler, professor and director of physical education and athletics, effective July 1, 1932.

Fred W. Luehring, professor of physical education and athletics, effective July 28, 1931.

Leonard G. Rountree, professor of medicine and chief of the Department of Medicine, Mayo Foundation, effective June 1, 1932.

John B. Doyle, assistant professor on Mayo Foundation, effective September 1, 1931.

Dorothea Kittredge, assistant professor of agricultural economics, effective at close of 1931-32.

Harry D. Lees, assistant director of Students' Health Service and assistant professor of preventive medicine and public health, effective September 1, 1931.

Constantine C. Nikiforoff, assistant professor of soils, effective July 16, 1931.

John M. Ort, assistant professor on the Mayo Foundation, effective June 1, 1932.

Mary Shirley, assistant professor, Institute of Child Welfare, effective at close of 1932-33.

Claude N. Stokes, assistant professor of mathematics, University High School, effective at close of first term of 1932 Summer Session.

Captain William G. Walker, assistant professor of military science and tactics, effective November 9, 1931.

Louise B. Wilson, assistant professor and extension worker, Institute of Child Welfare, effective at close of 1931-32.

Paul H. Fesler,* superintendent of the University Hospital, effective July 1, 1932.

Retirements

+Frederick Klaeber, professor of English philology, effective July 1, 1931.

Ina Firkins, reference librarian with rank of associate professor, effective August 1, 1932.

+Arnold Schwyzer, professorial lecturer in surgery effective July 1, 1932.

Promotions Effective with Year 1930-31

Assistant to President to University Dean:

James C. Lawrence (Administration)

Associate Professor to Professor:

John D. Akerman (Engineering and Architecture)

Robert W. French (Engineering and Architecture)

Florence L. Goodenough (Institute of Child Welfare)

Roy C. Jones (Engineering and Architecture)

Fred C. Lang (Engineering and Architecture)

Arthur W. Marget (School of Business Administration)

Horace Newhart (Medical School)

Chloe Owings (Social Hygiene Bureau)

Lloyd H. Reyerson (School of Chemistry)

Homer J. Smith (College of Education)

Associate Professor to Associate Professor and Associate Director of Summer Session:

Thomas A. H. Teeter (Extension Division)

Assistant Professor to Professor:

Ralph L. Dowdell (School of Mines and Metallurgy)

Ralph Dwan (Law School)

* Mr. Paul H. Fesler who has served the University for five and one half years as superintendent of the University Hospitals, resigned to accept the headship of the Wesley Memorial Hospital of Northwestern University, Chicago, Illinois. His resignation was accepted with regret.

During his administration of the University Hospitals the Eustis unit was built and the Students' Hospital likewise was constructed and made a part of the general hospital system. Mr. Fesler's knowledge of hospital structures was of great value to the University in planning these buildings. Mr. Fesler's especial genius was displayed even more effectively in the harmony which he secured among all the individuals and agencies using the University Hospitals and in the public relations and contacts that he established with representatives of the medical profession, county commissioners, the judges of probate courts, and citizens generally throughout the state.

Mr. Fesler has been succeeded by Dr. Halbert R. Dunn, an alumnus of the University of Minnesota, a doctor of medicine, and a doctor of philosophy, who has been the statistician for the Mayo Clinic at Rochester, Minnesota.

† Given rank of professor-emeritus.

Assistant Professor to Associate Professor:

Charles R. Donham (College of Agriculture)
 Stuart W. Harrington (Mayo Foundation)
 Henry E. Hartig (Engineering and Architecture)
 Cornelia Kennedy (College of Agriculture)
 John H. Kuhlmann (Engineering and Architecture)
 Fred W. Rankin (Mayo Foundation)
 John J. Reighard (School of Business Administration)
 Harold F. Wahlquist (College of Dentistry)
 Waltman Walters (Mayo Foundation)
 Arthur A. Zierold (Medical School)

Instructor to Associate Professor:

Maynard E. Pirsig (Law School)

Professorial Lecturer to Assistant Professor:

Harold C. Deutsch (College of Science, Literature, and the Arts)

Instructor to Assistant Professor:

L. T. Austin (Mayo Foundation)
 Arlie R. Barnes (Mayo Foundation)
 Arthur Borak (School of Business Administration)
 Robert W. Desmond (College of Science, Literature, and the Arts)
 Edward T. Evans (Medical School)
 Anne Fenlason (College of Science, Literature, and the Arts)
 Allan Hemingway (Medical School)
 Reuben E. Johnson (Medical School)
 B. R. Kirklin (Mayo Foundation)
 Laura A. Lane (Medical School)
 Constantine Nikiforoff (College of Agriculture)
 William T. Peyton (Medical School)
 William L. Prosser (Law School)
 Samuel B. Solhaug (Medical School)
 Roy E. Swanson (Medical School)
 L. Thompson (Mayo Foundation)
 James G. Umstaddt (College of Education)
 George B. Vold (College of Science, Literature, and the Arts)
 David H. Willson (College of Science, Literature, and the Arts)

Research Associate to Assistant Professor:

Alan E. Treloar (College of Science, Literature, and the Arts)

Special Assistant to Assistant Professor:

Edmund G. Williamson (College of Science, Literature, and the Arts)

Promotions Effective with Year 1931-32*Professor and Acting Head to Professor and Head:*

John D. Akerman (College of Engineering and Architecture)

Associate Professor to Professor:

Alfred W. Adson (Mayo Foundation)
 S. Chatwood Burton (College of Engineering and Architecture)
 John N. D. Bush (College of Science, Literature, and the Arts)
 Albert J. Chesley (Medical School)
 Oliver P. Field (College of Science, Literature, and the Arts)

Ernest M. Hammes (Medical School)
 Rodney B. Harvey (College of Agriculture)
 Frederick B. Hutt (College of Agriculture)
 George H. Montillon (School of Chemistry)
 J. Arthur Myers (Medical School)
 Leo A. Rigler (Medical School)
 Samuel E. Sweitzer (Medical School)
 Owen H. Wangensteen (Medical School)
 Henry W. Woltman (Mayo Foundation)

Assistant Professor to Professor:

John L. Rothrock (Medical School)

Assistant Professor to Associate Professor:

Raymond N. Bieter (Medical School)
 Jesse L. Bollman (Mayo Foundation)
 Ruth E. Boynton (Medical School)
 Jonas J. Christensen (College of Agriculture)
 Esther M. Greisheimer (Medical School)
 Halvor O. Halvorsen (Medical School)
 E. E. Hempstead (Mayo Foundation)
 George M. Higgins (Mayo Foundation)
 Chester A. Hughes (College of Engineering and Architecture)
 J. S. Lundy (Mayo Foundation)
 James S. McCartney (Medical School)
 Clarence A. Mickel (College of Agriculture)
 John F. Noble (Medical School)
 Arnold E. Osterberg (Mayo Foundation)
 Wesley E. Peik (College of Education)
 Frederick H. K. Schaaf (Medical School)
 Arthur J. Schwantes (College of Agriculture)
 Chester A. Stewart (Medical School)
 Joseph A. Wise (College of Engineering and Architecture)

Instructor to Assistant Professor:

Karl W. Anderson (Medical School)
 J. A. Bargen (Mayo Foundation)
 Frederic E. B. Foley (Medical School)
 S. F. Haines (Mayo Foundation)
 James M. Hayes (Medical School)
 Edgar T. Hermann (Medical School)
 Iver J. Johnson (College of Agriculture)
 Richard L. Kozelka (School of Business Administration)
 Jesse H. Neal (College of Agriculture)
 LeRoy Powers (College of Agriculture)
 John N. Searles (School of Mines and Metallurgy)
 Murray M. Sprung (School of Chemistry)
 Florence Warnock (Physical Education for Women)
 Harold N. G. Wright (Medical School)

Principal and Associate Professor to Professor and Director of Student Teaching:

Charles W. Boardman (College of Education)

Acting Principal and Assistant Professor to Principal and Assistant Professor:

John O. Christianson (Central School of Agriculture)

Assistant Professor to Professorial Lecturer:

Harold C. Deutsch (College of Science, Literature, and the Arts)

Physician in Students' Health Service and Instructor in Preventive Medicine and Public Health to Physician in Students' Health Service and Assistant Professor of Preventive Medicine and Public Health:

Ralph V. Ellis (Medical School)

Deaths

WILLIAM HAMMETT HUNTER

1882-1931

William H. Hunter was born in Boston, Massachusetts. From Harvard University he received the Bachelor's degree in 1904, the Master's degree in 1905, and the Doctor's degree in 1910. He was appointed Instructor in Chemistry at Bucknell in 1905. In 1909 he came to the University of Minnesota as Instructor in Chemistry, became Assistant Professor in 1913, Associate Professor in 1916 and Professor and Chief of the Division of Organic Chemistry in 1920.

Mr. Hunter had a remarkably wide and accurate knowledge, not only of the various fields of chemistry but also of those of biology and medicine. Such knowledge, combined with a sane judgment, made him one of the outstanding leaders in the development of graduate studies at Minnesota. His own researches were chiefly in the field of organic chemistry and dealt more particularly with the problems of chromoisomerism and the mechanism of reactions. In attempting the solution of problems of organic chemistry, he was not content to employ the methods of the classical organic chemist only, but was able and eager to use other methods which had been found useful.

Mr. Hunter had an exceedingly happy and direct manner in his intercourse with colleagues and graduate students. Few teachers have inspired their students to so high a degree with loyalty and affection.

HENRY LANE WILLIAMS

1869-1931

Dr. Williams, for twenty-two years head football coach at the University of Minnesota, was born of English American ancestry, at Hartford, Connecticut. He received his academic training at Yale University and was graduated with honors from the Medical School of the University of Pennsylvania in 1895—winning at the time, the D. Hayes Agnew prize for dissection. After pursuing graduate study in medicine in the hospitals and clinics of Germany, he began the practice of medicine in Philadelphia in 1896.

His career as coach of football, which was at first a hobby, began early. After his graduation from Yale, he taught one year at Siglar's Preparatory School at Newburgh-on-the-Hudson, ten miles from West Point. On Saturday afternoons he would coach the West Point cadets in football. At the Willian Penn Charter School he was coach in football, track, and field athletics.

In 1900 Dr. Williams was called to the University of Minnesota as Director of Athletics, a position he held for eight years, after which he concentrated on the coaching of football. He was also an instructor in the Medical School.

As Chairman of the Rules Committee on Football of the American Intercollegiate Athletic Association, he threw his considerable influence in the direction of changing the game from one of mass formation to that of the open style in vogue today.

On resigning as football coach in 1921, Dr. Williams became acting manager of the Tenth District of Veterans Medical Work and subsequently, zone-surgeon in charge of the medical work of the United States Fidelity and Guaranty Company. He kept, however, in close touch with football, now again his hobby, by writing analytical articles on Minnesota football games for the Minneapolis Journal.

Dr. Williams has been recognized as one of the great strategists whom the game has produced. He was admired and respected by his players for his forceful character and vigorous mind. Manly, independent, and fearless, he inspired these as well as other attributes of the true sportsman in his charges.

JOHN FARQUIER FULTON

1856-1932

Doctor Fulton was one of the original faculty of the Medical School, the first professor of ophthalmology, and since 1924 emeritus professor. He was born in Pennsylvania, was educated at York Collegiate Institute and graduated in 1880 from the Medical School of the University of Pennsylvania. He became interested in the eye, studied at the Pennsylvania Hospital and the Wills Eye and Ear Infirmary, and in 1882 located in St. Paul, restricting his practice to ophthalmology and oto-laryngology.

He was a pioneer in medical education, and, in association with Drs. Perry Millard, Parks Ritchie, C. Eugene Riggs, and others, founded St. Paul Medical College, which later merged with other Twin City schools to form the Medical School of the University of Minnesota. He was instrumental in securing the first large appropriation (\$100,000) for the school and gave much effort to the teaching of his specialty.

Retiring at the time of the reorganization in 1913, he came back voluntarily to teach again in the war-time stress caused by the absence of most of his colleagues. During the last fifteen years of his life he gave daily attendance to the eye clinic of the Wilder Free Dispensary, where numerous students came under him for elective courses. No finer example of devotion to social medicine and to medical education can be found than this long, voluntary, unpaid service through the University to the poor of the state and to the rising generation of physicians.

Doctor Fulton was characterized by his broad interests, his simple tastes, his fine professional ethics, his knowledge and dexterity in his specialty, his tactful treatment of patients of all social ranks. Well may he be thought of as a "Doctor of the Old School."

HENRY LONGSTREET TAYLOR

1857-1932

Henry Longstreet Taylor was born in Pennsylvania. He was educated at Haverford College, where he received the Bachelor's and the Master's degrees, and later (1928) the honorary degree of doctor of laws. His medical de-

gree was taken at the Medical College of Ohio, Cincinnati, in 1882. As a graduate student, he later attended the universities of London, Strassburg, Berlin, and Vienna.

In 1893 he began the practice of medicine in St. Paul, and immediately launched an educational campaign against tuberculosis. He was a pioneer in this field, and established the first adequately equipped private sanatorium for the treatment of tuberculous patients in Minnesota. He was also the leading spirit in persuading the state legislature to establish the State Sanatorium at Walker (1907) and the system of county sanatoria for consumptives (1912). He was an active and influential member of many medical organizations, and in 1927 was honored by election as president of the National Tuberculosis Association.

His boundless energy also found expression in medical journalism. He was managing editor of the *St. Paul Medical Journal*, and an associate editor of its successor, *Minnesota Medicine*. He also helped to launch and develop the *Minnesota Public Health Journal*, now known as *Everybody's Health*. He was appointed associate professor of medicine in the Graduate School of the University of Minnesota in 1923, and established a graduate fellowship in tuberculosis. The present high standing of Minnesota in matters of public health, and especially in measures for the prevention of tuberculosis, is due largely to his rare vision, his courage, his ability, and his persistent, unselfish service.

HENRY ALBERT MAVES

1879-1932

Doctor Maves was born in Germany, but was brought to St. Peter, Minnesota, when he was two years old. He attended Gustavus Adolphus College and later the College of Dentistry, University of Minnesota, where he was awarded the degree of doctor of dental surgery in 1905.

Dr. Maves was appointed as an instructor in the College of Dentistry in 1907, and was later promoted through the various grades. He was professor of oral surgery from 1919 up to the time of his death, March 19, 1932. His versatility and skill as a practicing dentist, combined with unusual talent as a teacher, lecturer, and clinician at dental meetings, quickly won for him honors in his home community and throughout the whole country. His published articles cover a wide range of dental subjects. He filled many offices in the local, state, and national dental organizations, and was elected to honorary membership in various professional societies. He became a fellow in the American College of Dentists in 1928.

OSCAR W. FIRKINS

1864-1932

Professor Oscar W. Firkins was born in Minnesota in 1864. He was educated at the University of Minnesota, receiving the bachelor of arts degree in 1884 and the master of arts degree in 1898. He began his service to the University in 1891 as assistant in rhetoric, and ad-

vanced progressively to a professorship of comparative literature in 1918.

Professor Firkins has been recognized as one of the few outstanding literary critics of our time, and was elected to the National Institute of Arts and Letters on account of the brilliance of his critical articles. As reviewer of poetry for the *Nation*, as dramatic critic for the *Weekly Review*, and as a contributor to such periodicals as the *Atlantic*, the *North American Review*, the *Yale Review*, and the *Saturday Review of Literature*, his name has long been familiar to the literary reading public.

He has been equally renowned as a writer of books. For a decade these were in the field of critical and interpretative biography. The brilliant penetration of his *Emerson* (1915), the sympathetic insight of his *Jane Austen* (1920), the gentle appreciation of his *Howells* (1924), and the beauty of his *Cyrus Northrop* (1925), are known to discerning readers. More recently his great interest in the theater had led to the writing of one-act plays. One volume of these has been published, the charming *Two Passengers for Chelsea* (1928).

Those who have watched his shy and picturesque figure in the halls of Folwell these twenty-five years will not forget the inspiration of his individualism, nor the incentive to high thinking of his character. Of him can be said what Arnold said of Emerson, "he was a friend and aider of those who would live in the spirit."

MRS. FOLWELL

1838-1931

Mrs. William Watts Folwell, widow of the first president of the University, died on April 17, 1931, at the age of 93 years. In her death one more of the ties that have bound the University of the present, and the struggling institution over which Dr. Folwell presided, has been cut. A woman who remembered the story of how her great grandfather, hearing of the Battle of Lexington, rushed to join the Minute Men, Mrs. Folwell yet made it a point to keep pace with the modern world. To the end of her life she committed to memory some lines of poetry each day. Someone has written of Mrs. Folwell, "there was always about her an indescribable courtesy and dignity, echoes of a period forgotten and a manner now gone out of the world."

WILLIS MASON WEST

1857-1932

Willis Mason West, for many years a distinguished member of the university faculty, from which he retired in 1912, died on May 2, 1932, age 75 years. Professor West achieved great success as a writer of textbooks in history, his works having so wide a sale that he retired from teaching to devote himself to writing. *The Modern World*, *The Ancient World*, and *The American People* were among his best known works. When he left the University Mr. West purchased a large dairy farm near Grand Rapids, Minnesota and made his home there for several

years. Subsequently he returned to Minneapolis to live. Born in St. Cloud in 1857, he was graduated from the University of Minnesota in 1879. He was one of the founders of *The Ariel*, a student publication that was the forerunner of *The Minnesota Daily*. Before entering university teaching he served as superintendent of schools in Faribault and Duluth. In 1920 he was prominently mentioned as a possibility for governor of Minnesota. One of his sons, Rodney M. West, is registrar of the University.

Gertrude Reeves, assistant professor of music, December 15, 1931.

Edward Staadt, assistant professor, Department of Speech, June 25, 1931.
Wayne E. Butterbaugh, lecturer, School of Business Administration, June 24, 1931.

Conclusion. In sections that follow are presented statistical reports by the comptroller and registrar, together with the most significant parts of the reports submitted by the deans of colleges and the heads of other administrative units. These give a comprehensive picture of the activities of the University of Minnesota during the biennium, 1930-32.

Respectfully submitted,
L. D. COFFMAN, President

The Registrar

To the President of the University:

Sir: I have the honor to submit the following report for the biennium 1930-32.

Statistics of registration. Enrolments at the University of Minnesota are classified as (a) collegiate students; (b) subcollegiate students; and (c) extension students. Although a single grand total of individual enrolments is reported, it must not be assumed that these different types of enrolment represent the same corresponding load of instruction.

Collegiate students. Under the heading of collegiate students is included all students in the University above high school grade (except those enrolled in the Extension Division) undergraduate, professional, and graduate. Table I shows by class and by school or college as well as by men and women the attendance of students of collegiate grade. All of the students in this group with the exception of those listed as unclassed have been required to present for admission evidence of at least the completion of a four-year high school course or its equivalent.

The major portion of the group of unclassed students have also met the regular entrance requirements. A small number have been admitted on the basis of age and experience as "adult" special students.

A comparison of the net grand total for 1930-31 with that for 1929-30 shows a net gain of 645 students, or 3 8/10 per cent. For the year 1931-32 there was a further net total gain of 128 students. For the first time since 1918-19, however, there was an actual loss in undergraduate enrolment, the falling off of 160 students, or a little over 1 per cent. The increase in the net total complete enrolment was due to an increase of nearly 19 per cent in the Graduate School. The principal losses in undergraduate enrolment occurred in the College of Science, Literature, and the Arts, the College of Engineering and Architecture, and the College of Agriculture, Forestry, and Home Economics. Aside from the increase in the Graduate School, the only significant gain was in the College of Education.

Table II shows a rearrangement of the enrolment data for collegiate students to include a distribution of the summer session enrolment to the various college units. In

this table, the total individuals for each college or school represent a total for the twelve-month period in comparison with the total given in Table I for the academic year.

Subcollegiate students. Table III shows the enrolment in departments which do not require high school graduation for admission. In comparing the data for the year 1930-31 with that for 1929-30, slight losses occurred in each of the four schools of agriculture except in the North Central School, in which there was a gain of 5 students. In 1931-32, however, all of the four schools of agriculture showed losses in enrolment ranging from approximately 10 per cent in the North Central School of Agriculture to 36 per cent in the Central School. The total for the groups shows a loss of 386, or a little over 10 per cent in 1931-32 as compared with 1930-31.

Extension students. Table IV shows the enrolment of three types of students: those who pursue courses in classrooms under the personal direction of instructors throughout the semester or year; those who are in attendance for limited periods; and those whose work is conducted through the medium of written directions sent by mail. In comparing the two years of biennium, losses appear in the case of each type of enrolment. For the entire group the loss is about 300 students, or 7 1/2 per cent.

Summary. Table V summarizes the totals of all three types of enrolment. The net grand totals of 29,432 for 1930-31 and 28,430 for 1931-32 represent the number of individuals, men and women, who received instruction at the hands of members of the university teaching staff during the two years of the biennium.

Table VI summarizes the registration for each year of the biennium by administrative units. For example, Agriculture in this table includes the enrolment in the College of Agriculture, Forestry, and Home Economics, the four schools of agriculture, and the agricultural short courses. Under Medicine is included courses for nurses and medical technicians in addition to the enrolment to the regular Medical School course.

Respectfully submitted,

RODNEY M. WEST, *Registrar*

TABLE I. COLLEGIATE STUDENTS BY SCHOOLS AND COLLEGES, 1930-32

COLLEGE OR SCHOOL	YEAR 1930-31			YEAR 1931-32			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
UNIVERSITY COLLEGE:								
Seniors	5	3	8	17	8	25	17	...
Juniors	7	7	14	9	15	24	10	...
Sophomores	2	4	6	5	8	13	7	...
Freshmen	2	4	6	3	1	4	...	2
Unclassed	1	....	1	....	1	1	...	...
Totals	17	18	35	34	33	67	32	...
UNASSIGNED:								
Sophomores	1	1	2	1	....	1	...	1
Freshmen	22	6	28	10	8	18	...	10
Totals	23	7	30	11	8	19	...	11
SCIENCE, LITERATURE, AND THE ARTS:								
Seniors	141	216	357	186	205	391	34	...
Juniors	210	195	405	186	211	397	...	8
Sophomores	1,476	895	2,371	1,454	838	2,292	...	79
Freshmen	1,163	745	1,908	1,057	775	1,832	...	76
Unclassed	90	148	238	81	157	238	...	...
Totals	3,080	2,199	5,279	2,964	2,186	5,150	...	129
ENGINEERING AND ARCHITECTURE:								
Seniors	268	7	275	243	8	251	...	24
Juniors	281	8	289	330	3	333	44	...
Sophomores	514	4	518	448	4	452	...	66
Freshmen	551	7	558	473	1	474	...	84
Unclassed	7	9	16	9	3	12	...	4
Totals	1,621	35	1,656	1,503	19	1,522	...	134
AGRICULTURE, FORESTRY, AND HOME ECONOMICS:								
Seniors	102	137	239	94	103	197	...	42
Juniors	90	91	181	98	92	190	9	...
Sophomores	147	152	299	171	151	322	23	...
Freshmen	165	152	317	137	131	268	...	49
Unclassed	29	18	47	30	17	47	...	...
Totals	533	550	1,083	530	494	1,024	...	59
LAW:								
Third Year	73	3	76	73	2	75	...	1
Second Year	79	3	82	72	3	75	...	7
First Year	91	3	94	96	4	100	6	...
Unclassed	3	1	4	4	....	4	...	...
Totals	246	10	256	245	9	254	...	2

See continuation below

TABLE I—Continued

COLLEGE OR SCHOOL	YEAR 1930-31			YEAR 1931-32			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
EDUCATION:								
Seniors	118	521	639	143	434	577	...	62
Juniors	131	384	515	158	498	656	141	...
Sophomores	59	135	194	49	116	165	...	29
Freshmen	64	119	183	68	120	188	5	...
Unclassed	73	315	388	109	332	441	53	...
Totals	445	1,474	1,919	527	1,500	2,027	108	...
BUSINESS ADMINISTRATION:								
Seniors	172	33	205	196	39	235	30	...
Juniors	249	69	318	231	48	279	...	39
Unclassed	8	3	11	22	2	24	13	...
Totals	429	105	534	449	59	538	4	...
GRADUATE								
...	1,104	450	1,554	1,321	521	1,842	288	...
Total academic year	9,173	5,582	14,755	9,237	5,594	14,831	76	...
Less duplicates	521	370	891	466	373	839	...	52
Net total academic year	8,652	5,212	13,864	8,771	5,221	13,992	128	...
SUMMER SESSION:								
First term	2,175	3,034	5,209	2,365	3,014	5,379	170	...
Second term	1,210	1,020	2,230	1,183	1,035	2,218	...	12
Totals	3,385	4,054	7,439	3,548	4,049	7,597	158	...
Less duplicates	920	780	1,700	879	769	1,648	...	52
Net total Summer Session	2,465	3,274	5,739	2,669	3,280	5,949	210	...
Mayo Foundation (Graduate) ..	262	14	276	247	14	261	...	15
Net total summer enrolment ...	2,727	3,288	6,015	2,916	3,294	6,210	195	...
Grand total (collegiate)	11,379	8,500	19,879	11,687	8,515	20,202	323	...
Less duplicates	1,415	942	2,357	1,480	966	2,446	89	...
Net grand totals (collegiate) ..	9,964	7,558	17,522	10,207	7,549	17,756	234	...

MEDICAL:

Internes	159	10	169	168	8	176	7	...
Seniors	108	4	112	104	8	112	...	...
Juniors	90	8	98	80	6	86	...	12
Sophomores	135	7	142	131	6	137	...	5
Freshmen	145	8	153	124	6	130	...	23
Unclassed	30	2	32	45	4	49	17	...
Totals	667	39	706	652	38	690	...	16

MEDICAL TECHNICIANS

NURSING:								
Third Year	142	142	.....	113	113	...	29	
Second Year	87	87	.....	103	103	16	...	
First Year	225	225	.....	239	239	14	...	
Public Health	57	57	.....	.....	.....	...	57	
Affiliate	64	64	.....	66	66	2	...	
Unclassed .....	.....	.....	.....	38	38	38	...	
Totals	575	575	.....	559	559	...	16	

DENTISTRY:

Seniors	99	1	100	88	....	88	...	12
Juniors	75	....	75	82	....	82	7	...
Pre-Juniors	87	....	87	68	....	68	...	19
Unclassed	3	....	3	1	....	1	...	2
Totals	264	1	265	239	....	239	...	26

DENTAL HYGIENISTS:

Second Year	26	26	.....	26	26	...	...
First Year	34	34	.....	43	43	9	...	
Unclassed	1	1	.....	.....	.....	...	1	
Totals	61	61	.....	69	69	8	...	

MINES AND METALLURGY:

Seniors	20	....	20	30	....	30	10	...
Juniors	35	....	35	38	....	38	3	...
Sophomores	55	....	55	63	....	63	8	...
Freshmen	67	....	67	40	....	40	...	27
Totals	177	....	177	171	....	171	...	6

PHARMACY:

Fourth Year	36	5	41	45	7	52	11	...
Third Year	34	5	39	40	5	45	6	...
Second Year	46	5	51	45	6	51	...	...
First Year	20	6	26	17	2	19	...	7
Unclassed	2	....	2	.....	.....	...	...	2
Totals	138	21	159	147	20	167	8	...

CHEMISTRY:

Seniors	59	....	59	62	1	63	4	...
Juniors	78	2	80	103	6	109	29	...
Sophomores	117	5	122	141	4	145	23	...
Freshmen	174	3	177	138	7	145	...	32
Unclassed	1	....	1	.....	.....	...	...	1
Totals	429	10	439	444	18	462	23	...

TABLE II A. COLLEGIATE ENROLMENT BY QUARTERS INCLUDING SUMMER SESSION, 1930-31

SCHOOL OR COLLEGE	FIRST SUMMER SESSION, 1930			SECOND SUMMER SESSION, 1930			FALL			WINTER			SPRING			TOTAL INDIVIDUAL REGISTRATION*					
							Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total			
		Men	Women	Total		Men	Women	Total		Men	Women	Total		Men	Women	Total		Men	Women	Total	
University College .....	...	...	...	...	...	...	...	...	6	3	9	14	10	24	17	18	35	17	18	35	
Unassigned .....	...	...	...	...	...	...	23	8	31	6	3	9	2	2	4	23	7	30			
Science, Literature, and the Arts.....	388	466	854	267	160	427	2,632	1,973	4,605	2,403	1,794	4,257	2,231	1,680	3,911	3,384	2,571	5,955			
Engineering and Architecture	215	13	228	94	1	95	1,487	24	1,511	1,401	30	1,431	1,270	23	1,293	1,690	45	1,735			
Agriculture, Forestry, and Home Economics.....	54	128	182	...	...	...	430	507	937	464	476	940	376	446	822	543	611	1,154			
Law	39	4	43	41	3	44	243	10	253	239	10	249	239	11	250	273	14	287			
Medicine	382	24	406	381	26	407	598	35	633	604	35	639	566	31	597	805	48	853			
Nursing .....	...	446	446	...	431	431	...	503	503	...	435	435	...	458	458	...	772	772			
Medical Technicians .....	...	...	...	...	...	...	...	21	21	...	24	24	...	22	22	...	27	27			
Dentistry.....	89	...	89	65	...	65	256	1	257	241	1	242	233	...	233	289	1	290			
Dental Hygienists .....	...	5	5	...	3	3	...	61	61	...	54	54	...	53	53	...	63	63			
Mines and Metallurgy.....	8	...	8	1	...	1	169	...	169	165	...	165	152	...	152	179	...	179			
Pharmacy	10	3	13	13	3	16	129	17	146	122	20	142	118	19	137	139	22	161			
Chemistry	64	8	72	26	4	30	423	10	433	368	8	376	341	8	349	457	16	473			
Education	306	1,518	1,824	114	308	422	385	1,149	1,534	340	1,157	1,497	336	1,110	1,446	738	2,927	3,665			
Business Administration	64	27	91	37	4	41	333	71	406	353	82	435	355	85	440	473	122	595			
Graduate.....	818	406	1,224	433	91	524	881	335	1,216	895	315	1,210	872	320	1,192	1,665	814	2,479			
Totals	2,437	3,048	5,485	1,472	1,034	2,506	7,995	4,728	12,723	7,675	4,454	12,129	7,108	4,286	11,394	10,675	8,078	18,753			
Less duplicates (transfers between colleges) .....	...	...	...	...	...	...	120	132	252	40	102	142	31	105	136	711	520	1,231			
Net totals	2,437	3,048	5,485	1,472	1,034	2,506	7,875	4,596	12,471	7,635	4,352	11,987	7,077	4,181	11,258	9,964	7,558	17,522			

* This represents a net count of separate individuals with all duplicates deducted.

TABLE II B. COLLEGIATE ENROLMENT BY QUARTERS INCLUDING SUMMER SESSION, 1931-32

SCHOOL OR COLLEGE	FIRST SUMMER SESSION, 1931			SECOND SUMMER SESSION, 1931			FALL			WINTER			SPRING			TOTAL INDIVIDUAL REGISTRATION*		
	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total	Men	Women	Total
University College	7	1	8	3	1	4	21	24	45	26	26	52	26	28	54	38	34	72
Unassigned .....	...	...	...	...	...	...	9	7	16	3	2	5	3	1	4	11	8	19
Science, Literature, and the Arts.....	469	523	992	233	175	408	2,553	1,921	4,474	2,419	1,780	4,199	2,131	1,666	3,797	3,292	2,631	5,923
Engineering and Architecture.....	227	12	239	79	...	79	1,389	21	1,410	1,316	20	1,336	1,189	20	1,209	1,593	28	1,621
Agriculture, Forestry, and Home Economics.....	78	117	195	...	...	...	450	450	900	469	433	902	381	400	781	544	558	1,102
Law	23	1	24	...	...	...	242	16	252	230	10	240	225	10	235	253	9	262
Medicine	314	17	331	325	20	345	585	37	622	581	37	618	571	34	605	726	40	766
Nursing .....	...	440	440	...	412	412	...	476	476	...	441	441	...	477	477	...	725	725
Medical Technicians .....	...	3	3	...	...	...	...	27	27	...	27	27	...	28	28	...	31	31
Dentistry	71	...	71	47	...	47	239	...	239	218	...	218	218	...	218	255	...	255
Dental Hygienists .....	...	1	1	...	2	2	...	66	66	...	65	65	...	59	59	...	69	69
Mines and Metallurgy.....	6	...	6	2	...	2	159	...	159	149	...	149	144	...	144	173	...	173
Pharmacy	8	4	12	11	2	13	144	19	163	134	18	152	128	18	146	151	21	172
Chemistry	81	3	84	35	3	38	414	16	430	385	11	396	350	11	361	470	20	490
Education.....	366	1,457	1,823	170	308	478	409	1,205	1,614	425	1,103	1,528	406	1,109	1,515	856	2,899	3,755
Business Administration	77	39	116	44	7	51	347	77	424	349	76	425	348	75	423	504	121	625
Graduate	885	410	1,295	481	119	600	1,075	420	1,495	1,098	390	1,488	1,039	387	1,426	1,972	870	2,842
Totals	2,612	3,028	5,640	1,430	1,049	2,479	8,036	4,776	12,812	7,802	4,439	12,241	7,159	4,323	11,482	10,838	8,064	18,902
Less duplicates (transfers between colleges) ...	...	...	...	...	...	...	105	142	247	65	92	157	43	96	139	631	515	1,146
Net totals.....	2,612	3,028	5,640	1,430	1,049	2,479	7,931	4,634	12,565	7,737	4,347	12,084	7,116	4,227	11,343	10,207	7,549	17,756

* This represents a net count of separate individuals with all duplicates deducted.

TABLE III. SUBCOLLEGIATE STUDENTS, 1930-32

SCHOOL OR COURSE	YEAR 1930-31			YEAR 1931-32			GAIN	LOSS		
	Men	Women	Total	Men	Women	Total				
CENTRAL SCHOOL OF AGRICULTURE:										
Three-year course:										
Seniors	86	31	117	69	28	97	...	20		
Juniors	104	42	146	73	24	97	...	49		
Freshmen	118	37	145	56	18	74	...	71		
Unclassed	167	27	194	80	36	116	...	78		
Totals	465	137	602	278	106	384	...	218		
NORTHWEST SCHOOL OF AGRICULTURE:										
Three-year course:										
Seniors	54	29	83	41	18	59	...	24		
Juniors	64	21	85	37	7	44	...	41		
Freshmen	70	13	83	47	15	62	...	21		
Unclassed	8	19	27	9	25	34	7	...		
Totals	196	82	278	134	65	199	...	79		
Intermediate	25	13	38	35	11	46	8	...		
Total school regis....	221	95	316	169	76	245	...	71		
WEST CENTRAL SCHOOL OF AGRICULTURE:										
Three-year course:										
Seniors	63	31	94	39	27	66	...	28		
Juniors	58	37	95	38	21	59	...	36		
Freshmen	94	44	138	54	15	69	...	69		
Unclassed	14	14	28	28	12	40	12	...		
Totals	229	126	355	159	75	234	...	121		
Intermediate	21	9	30	14	8	22	...	8		
Total school regis....	250	135	385	173	83	256	...	129		
NORTH CENTRAL SCHOOL OF AGRICULTURE:										
Three-year course:										
Seniors	8	...	8	17	...	17	9	...		
Juniors	18	...	18	11	...	11	...	7		
Freshmen	22	...	22	13	...	13	...	9		
Unclassed	3	...	3	4	...	4	1	...		
Totals	51	...	51	45	...	45	...	6		
Intermediate	8	...	8	8	...	8	...	...
Total school regis....	59	...	59	53	...	53	...	6		
UNIVERSITY HIGH SCHOOL....	200	196	396	214	189	403	7	...		
Grand total schools...	1,195	563	1,758	887	454	1,341	...	417		
Less duplicates	1	...	1	...	...	...	1	...
Net total schools.....	1,194	563	1,757	887	454	1,341	...	416		

TABLE III—Continued

SCHOOL OR COURSE	YEAR 1930-31			YEAR 1931-32			GAIN	LOSS		
	Men	Women	Total	Men	Women	Total				
SHORT COURSES:										
Beekeepers' short course....										
Commercial florists' short course	72	15	87	95	21	116	29	...		
Creamery operators' short course	56	...	56	40	...	40	...	16		
Creamery operators' short course (advanced)	33	...	33	12	...	12	...	21		
Farm women's week (Crookston) .....	...	111	111	...	109	109	...	2	
Farm women's week (Grand Rapids) .....	...	19	19	...	...	...	...	19
Farm women's week (Morris) .....	...	31	31	...	...	...	...	31
Farmers' short course (Grand Rapids)	217	14	231	80	35	115	...	116		
Home gardeners' short course .....	...	...	...	21	21	21	...	...
Ice cream makers' short course	14	...	14	16	...	16	2	...		
Junior short course (Crookston)	130	134	264	170	211	381	117	...		
Junior short course (Grand Rapids)	39	52	91	29	30	59	...	32		
Junior short course (Morris)	316	340	656	343	335	678	22	...		
Land management short course	63	...	63	85	4	89	26	...		
Poultry short course	57	21	78	...	...	...	...	78
Regional scout executive seminar	30	...	30	...	...	...	...	30
Rural farm building short course .....	...	...	...	65	...	65	65	...
Scout masters short course..	45	...	45	47	...	47	2	...		
Swimming short course (Crookston) .....	...	...	...	...	78	78	78	...
Grand total short courses	1,090	737	1,827	995	847	1,842	15	...		
Less duplicates	1	1	2	4	...	4	2	...		
Net total short courses	1,089	736	1,825	991	847	1,838	13	...		
Grand total schools and short courses ...	2,283	1,299	3,582	1,878	1,301	3,179	...	403		
Less duplicates	54	19	73	46	10	56	...	17		
Net total schools and short courses.....	2,229	1,280	3,509	1,832	1,291	3,123	...	386		

TABLE IV. EXTENSION STUDENTS, 1930-32

	YEAR 1930-31			YEAR 1931-32			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
GENERAL EXTENSION	3,376	3,635	7,011	2,960	3,200	6,160	...	851
SHORT COURSES								
Dental:								
Cavity preparation	17	...	17	...	...	...	17	
Dental assistants .....	...	34	34	...	...	...	34	
Orthodontia	10	...	10	...	...	...	10	
Prosthetic dentistry .....	...	...	...	20	...	20	20	...
Refraction	5	...	5	...	...	...	5	
Short course in dentistry..	...	...	...	25	...	25	25	...
Embalmers:								
Embalmers	64	2	66	114	6	120	54	...
Institute for funeral di- rectors	123	3	126	191	9	200	74	...
Greenskeepers .....	...	...	...	57	...	57	57	...
Scout leaders:								
Boy Scout leaders.....	59	...	59	47	...	47	...	12
Cookery .....	...	...	...	3	...	3	3	...
First aid	15	...	15	20	...	20	5	...
Game leadership .....	...	...	...	2	...	2	2	...
Girl Scout leaders.....	...	117	117	...	...	...	117	
Nature lore .....	...	...	...	4	...	4	4	...
Sea Scout training.....	...	...	...	11	...	11	11	...
Song leadership .....	...	...	...	3	...	3	3	...
Social:								
Parents and sex education ...	...	45	45	...	...	...	...	45
Parents and teachers ....	...	...	...	21	21	21	21	...
Social hygiene .....	...	53	53	...	...	...	...	53
Textiles	53	82	135	21	8	29	...	106
Grand total short courses.....	346	336	682	518	44	562	...	120
Less duplicates	65	3	68	123	6	129	61	...
Net total short courses	281	333	614	395	38	433	...	181
CORRESPONDENCE	1,333	1,908	324	1,395	1,993	3,388	147	...
Grand total extension	4,990	5,876	10,866	4,750	5,231	9,981	...	885
Less duplicates ..	79	173	252	70	97	167	...	85
Net total extension ..	4,911	5,703	10,614	4,680	5,134	9,814	...	800

TABLE V. SUMMARY, 1930-32

DIVISION	YEAR 1930-31			YEAR 1931-32			GAIN	LOSS
	Men	Women	Total	Men	Women	Total		
Collegiate students	9,964	7,558	17,522	10,207	7,549	17,756	234	...
Subcollegiate students	2,229	1,280	3,509	1,832	1,291	3,123	...	386
Totals	12,193	8,838	21,031	12,039	8,840	20,879	...	152
Less duplicates	15	2	17	8	1	9	...	8
Net totals	12,178	8,836	21,014	12,031	8,839	20,870	...	144
Extension students	4,911	5,703	10,614	4,680	5,134	9,814	...	800
Grand totals	17,089	14,539	31,628	16,711	13,973	30,684	...	944
Less duplicates	955	1,241	2,196	1,126	1,128	2,254	58	...
Net grand totals	16,134	13,298	29,432	15,585	12,845	28,430	...	1,002

TABLE VI. COMPARATIVE REGISTRATION FIGURES, 1930-32

COLLEGE OR SCHOOL	YEAR 1930-31			YEAR 1931-32			GAIN		LOSS	
	Men	Women	Total	Men	Women	Total	Wom- Men	en	Wom- Men	en
University College ...	17	18	35	34	33	67	17	15	...	...
Unassigned	23	7	30	11	8	19	...	1	12	...
Science, Literature, and the Arts	3,080	2,199	5,279	2,964	2,186	5,150	...	...	116	13
Engineering and Architecture	1,621	35	1,656	1,503	19	1,522	...	...	118	16
Agriculture (including short courses)	2,562	1,634	4,196	2,148	1,596	3,744	...	...	414	38
Law	246	10	256	245	9	254	...	...	1	1
Medicine (including Nurses and Medical Technicians)	667	641	1,308	652	628	1,280	...	...	15	13
Dentistry (including Dental Hygienists)	264	62	326	239	69	308	...	7	25	...
Mines and Metallurgy	177	...	177	171	...	171	...	...	6	...
Pharmacy	138	21	159	147	20	167	9	...	...	1
Chemistry	429	10	439	444	18	462	15	8	...	...
Education (including University High School)	645	1,670	2,315	741	1,689	2,430	96	19	...	...
Business Administration	429	105	534	449	89	538	20	...	...	16
Graduate	1,104	450	1,554	1,321	521	1,842	217	71	...	...
Summer Session (net)	2,727	3,288	6,015	2,916	3,294	6,210	189	6	...	...
Totals	14,129	10,150	24,279	13,985	10,179	24,164	...	29	144	...
Less duplicates ..	1,951	1,314	3,265	1,954	1,340	3,294	3	26	...	...
Net totals	12,178	8,836	21,014	12,031	8,839	20,870	...	3	147	...
Extension:										
General Extension ..	3,376	3,635	7,011	2,960	3,200	6,160	...	...	416	435
Short courses	281	333	614	395	38	433	114	...	...	295
Correspondence	1,333	1,908	3,241	1,395	1,993	3,388	62	85	...	...
Totals	4,990	5,876	10,866	4,750	5,231	9,981	...	...	240	645
Less duplicates ..	79	173	252	70	97	167	...	...	9	76
Net totals	4,911	5,703	10,614	4,680	5,134	9,814	...	...	231	569
Summary:										
Totals, resident students	12,178	8,836	21,014	12,031	8,839	20,870	...	3	147	...
Totals, extension students	4,911	5,703	10,614	4,680	5,134	9,814	...	...	231	569
Grand totals	17,089	14,539	31,628	16,711	13,973	30,684	...	...	378	566
Less duplicates ..	955	1,241	2,196	1,126	1,128	2,254	171	...	...	113
Net grand totals..	16,134	13,298	29,432	15,585	12,845	28,430	...	...	549	453

TABLE VII. DEGREES CONFERRED, 1930-32

COLLEGE AND DEGREES	YEAR 1930-31			YEAR 1931-32		
	Men	Women	Total	Men	Women	Total
SCIENCE, LITERATURE, AND THE ARTS:						
B.A. <i>summa cum laude</i>	5	4	9	2	2	4
B.A. <i>magna cum laude</i>	1	4	5	7	6	13
B.A. <i>cum laude</i>	28	26	54	24	20	44
B.S. <i>cum laude</i> .....	...	9	9	...	9	9
B.S. <i>cum laude</i> (arts and nursing) .....	...	2	2	...	...	...
B.A.	108	86	194	142	67	209
B.S. (arts and nursing) .....	...	3	3	...	...	...
B.S.	3	74	77	2	66	68
ENGINEERING AND ARCHITECTURE:						
Bachelor of aeronautical engineering	9	...	9	20	...	20
Bachelor of agricultural engineering	1	...	1	2	...	2
Bachelor of architectural engineering	24	...	24	13	...	13
Bachelor of civil engineering with distinction .....	...	...	...	1	...	1
Bachelor of civil engineering	38	...	38	43	...	43
Bachelor of electrical engineering with distinction	3	...	3	2	...	2
Bachelor of electrical engineering	72	...	72	49	...	49
Bachelor of mechanical engineering with distinction .....	...	...	...	1	...	1
Bachelor of mechanical engineering	30	...	30	35	...	35
Bachelor of architecture	17	...	17	19	...	19
Bachelor of interior architecture .....	...	6	6	1	6	7
AGRICULTURE:						
B.S. with distinction (agriculture)	1	1	2	2	...	2
B.S. (agriculture)	13	...	13	15	...	15
B.S. with distinction (agricultural science) .....	...	...	...	5	...	5
B.S. (agricultural science)	10	...	10	6	...	6
B.S. with distinction (forestry)	6	...	6	4	...	4
B.S. (forestry)	32	...	32	24	1	25
B.S. with high distinction (home economics) .....	...	...	...	1	1	1
B.S. with distinction (home economics) .....	...	5	5	...	1	1
B.S. (home economics) .....	...	33	33	...	31	31
AGRICULTURE AND EDUCATION:						
B.S. with distinction (home economics) .....	...	5	5	...	1	1
B.S. (home economics) .....	...	49	49	...	40	40
B.S. with distinction (agriculture) .....	...	...	...	2	...	2
B.S. (agriculture)	11	...	11	3	...	3
AGRICULTURE AND BUSINESS ADMINISTRATION:						
Bachelor of business administration in agriculture .....	...	...	...	2	...	2
LAW:						
LL.B.	69	2	71	70	1	71
MEDICINE:						
M.D. with distinction	3	...	3	2	...	2
M.D.	115	5	120	120	7	127
M.B. with distinction	5	...	5	1	...	1
M.B.	118	2	120	115	10	125
B.S.	90	25	115	78	14	92
Graduate in nursing .....	...	104	104	...	105	105

TABLE VII—Continued

COLLEGE AND DEGREES	YEAR 1930-31			YEAR 1931-32		
	Men	Women	Total	Men	Women	Total
DENTISTRY:						
D.D.S.	95	...	95	69	...	69
Graduate dental hygienist....	...	22	22	...	22	22
MINES AND METALLURGY:						
E.M.	7	...	7	11	...	11
E.M. in geology	3	...	3	5	...	5
E.M. in petroleum	1	...	1	3	...	3
Metallurgical engineer	5	...	5	5	...	5
PHARMACY:						
B.S. in pharmacy	17	3	20	31	6	37
Pharmaceutical chemist	6	...	6	4	1	5
CHEMISTRY:						
Bachelor of chemistry with distinction....	...	...	...	2	...	2
Bachelor of chemistry	5	...	5	6	1	7
Bachelor of chemical engineering with distinction	1	...	1	3	...	3
Bachelor of chemical engineering....	31	...	31	29	...	29
EDUCATION:						
B.S. with high distinction	1	20	21	4	15	19
B.S. with distinction	12	62	74	23	74	97
B.S.	80	306	386	80	286	366
BUSINESS ADMINISTRATION:						
Bachelor of business administration with distinction	4	1	5	2	...	2
Bachelor of business administration....	142	29	171	138	38	176
UNIVERSITY COLLEGE:						
B.A. <i>summa cum laude</i>....	...	...	...	1	1	
B.A. with distinction ....	...	1	1	1	1	2
B.A.	3	1	4	9	3	12
B.S. with distinction	1	...	1	...	3	3
B.S. ....	...	...	...	5	2	7
GRADUATE:						
M.A.	72	73	145	83	45	128
M.S.	52	12	64	50	11	61
M.S. in architecture	2	...	2	...	...
M.S. in architectural engineering....	...	...	...	1	...	1
M.S. in chemical engineering....	4	...	4	5	...	5
M.S. in civil engineering....	2	...	2	4	...	4
M.S. in electrical engineering....	2	...	2	4	...	4
M.S. in hydraulic engineering....	...	...	...	1	...	1
M.S. in mechanical engineering....	3	...	3	1	...	1
M.S. in psychometrics ....	...	...	...	1	1	
C.E.	3	...	3	2	...	2
E.E.	2	...	2	...	...
M.S. in dermatology	2	...	2	...	...
M.S. in dermatology and syphilology....	...	...	...	1	...	1
M.S. in experimental surgery....	3	...	3	1	...	1
M.S. in medicine	6	1	7	10	1	11
M.S. in neurology ....	...	...	...	2	...	2

TABLE VII—Continued

COLLEGE AND DEGREES	YEAR 1930-31			YEAR 1931-32		
	Men	Women	Total	Men	Women	Total
M.S. in neurologic surgery.....	...	...	...	1	...	1
M.S. in obstetrics and gynecology .....	...	...	...	1	...	1
M.S. in orthopedic surgery.....	1	...	1	...	...
M.S. in oto-laryngology	2	...	2	1	...	1
M.S. in pathology	1	...	1	1	...	1
M.S. in pediatrics .....	...	...	...	1	...	1
M.S. in radiology .....	...	...	...	1	...	1
M.S. in surgery	11	...	11	18	...	18
M.S. in urology	3	...	3	1	...	1
Ph.D.	62	6	68	57	7	64
Ph.D. in obstetrics and gynecology.....	...	...	...	1	...	1
Ph.D. in surgery .....	...	...	...	5	...	5
Totals	1,459	982	2,441	1,495	906	2,401
SCHOOL OR DIVISION						
Central School of Agriculture	60	30	94	61	28	89
Embalming certificates	55	2	57	96	6	102
Extension certificates	38	7	45	31	6	37
North Central School of Agriculture.....	7	...	7	24	...	24
Northwest School of Agriculture.....	71	40	111	76	31	107
Public Health Nursing certificates.....	...	28	28	...	35	35
University High School	30	34	64	36	34	70
West Central School of Agriculture.....	63	37	100	52	35	87
Totals	328	178	506	376	175	551

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, 1932.

The University's complete financial report, *Report of the Comptroller* is separately published and is available to those interested upon request.

Respectfully submitted,

W. T. MIDDLEBROOK, *Comptroller*

The Sources of University Income

July 1, 1931 to June 30, 1932

From the State

The Legislative Maintenance Appropriation \$ 3,275,000.00
For the general support of the instructional, research, and administrative departments and maintenance of buildings and grounds, including the Department of Agriculture and the Agricultural Schools and Experiment Stations.

The 23/100 Mill Tax 416,327.51
The standing direct property tax for the general support of the University.

The state's share of the cost of indigent patients at the Minnesota General Hospital 165,000.00

The special projects administered and carried on by the University for the general benefit of the people of the state 272,000.00

These special projects include Agricultural Extension, county agents, Live Stock Sanitary Board, Albert Lea Creamery, and research in fields of manganeseiferous ores, beneficiation of low grade ores, soils, medicine, crop breeding and testing, and field work on the Iron Range. (Includes also Crookston repairs, \$25,000.)

The Physical Plant Extensions 360,450.21
Includes University Building Fund, \$298,950.21; Fruit Breeding Farm—land purchase, \$9,000; Grand Rapids—dairy barn, \$15,000; Morris—sewage plant, \$7,500; and University Farm—farm crop field house, \$30,000.

From the Federal Government 363,084.73
\$330,774 of this amount is used for instruction, research, and extension in agriculture; \$9,500 in engineering; \$13,310 in education; and \$9,500 in the College of Science, Literature, and the Arts.

From the Permanent University Fund 204,141.07
The principal of the fund, amounting to \$5,618,845 on June 30, 1932, 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 84,850.05
The principal of the fund was derived from land set aside by the state of Minnesota. The income is used for general university support.

From the University Itself
The students' contribution in the form of tuition fees (net) 1,177,802.95
The counties' share of the cost of indigent patients at the Minnesota General Hospital 173,438.64
The Minnesota General Hospital receipts from pay patients 185,944.77
The Dental Infirmary receipts of the College of Dentistry 52,497.86
Other miscellaneous departmental income such as sales of livestock and products 329,091.08
Sale of Old Dispensary property 1,650.00

From Self-Supporting Service Enterprises and Revolving Funds 1,449,102.84
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 694,195.68
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 258,801.78
All intercollegiate athletic receipts are credited to this fund.

Total Receipts from All Sources \$ 9,462,879.17
Free balance July 1, 1931 10,640.63

\$ 9,473,519.80

The Expenditures for University Operations

July 1, 1931 to June 30, 1932

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 \$ 176,284.70

The General University

The expenses of the library, general bulletins and publications, lectures and convocations, the storehouses, truck service, the intercampus trolley, the Employment Bureau, and other services of an all-university character 454,523.00

The Expenses of Instruction and Research

The expenses of college instruction and research, agricultural schools and experiment stations, the hospital, Summer Session, Agricultural and General Extension. (General fund, \$4,540,702.14; federal funds, \$365,910.18; special state appropriations, \$244,421.85) 5,151,034.17

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, \$738,599.87; special state appropriations, \$12,000) 750,599.87

The Plant Extension Expenditures

Expenditures for building additions and land. (General fund, \$67,097.56; special state appropriations, \$32,069.95; service enterprises, \$54,195.18; building funds, \$390,772.14) 544,134.83

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 1,346,041.90

The Trust Fund Expenditures

Student loans, scholarships, fellowships, and prizes and trust fund expenditures for teaching and research, care of the sick and other trust purposes 623,528.30

The Senate Committee on Intercollegiate Athletics

The operating expenses of intercollegiate athletics and that part of the physical education expense paid from receipts of intercollegiate athletics. (Includes interest on bonds purchased) 198,794.68

Expenditures for All Purposes

Transfers to student loans and endowments (services and trusts) 58,900.00

Transfer to depreciation reserve (Minnesota Hospital and Home for Crippled Children) 45,000.00

Increase in obligations and allotted balances 10,768.64

Free balance June 30, 1932 113,909.71

\$ 9,473,519.80

Interesting Facts About the University

Students

	1931-32	1930-31	1929-30	1928-29
Collegiate	17,756	17,522	16,877	16,713
Non-collegiate	3,123	3,509	3,896	3,279
Extension	9,814	10,614	10,206	9,530

Staff—1931-32

Administrative, teaching, and research staff*	1,303
Clerical and service staff*	1,072

Colleges

	Departments
Science, Literature, and the Arts	27
College of Engineering and Architecture	10
Department of Agriculture	32
Medical School	13
School of Chemistry	1
School of Mines and Metallurgy	3
College of Dentistry	1
Law School	1
College of Pharmacy	1
College of Education	9
Graduate School	9
School of Business Administration	1
Library Instruction	1

Land—June 30, 1932

	Acres	Value
Main campus—Minneapolis	131.24	\$3,729,730
Farm campus—St. Paul	603.75	573,763
Crookston	550.89	137,368
Grand Rapids	454.60	34,095
Zumbra Heights	229.89	47,471
Morris	376.70	41,018
Waseca	246.02	30,752
Duluth	252.74	41,224
Cloquet	2,902.09	60,632

Buildings—June 30, 1932

	Major	Minor	Value
Main campus	43	15	\$13,998,644
Farm campus	27	52	2,147,780
Crookston	14	25	584,597
Grand Rapids	2	20	194,858
Zumbra Heights	4	8	34,118
Morris	15	15	761,098
Waseca	6	14	35,181
Duluth	2	20	65,076
Cloquet	6	20	35,560
Itasca	2	15	17,875

Equipment—June 30, 1932

	Total	Livestock	Books, Museums, and Collections	Other
Main campus	\$5,188,115		\$2,426,968	\$2,761,147
Farm campus	851,022	\$36,178	217,759	597,085
Agricultural Schools and Experiment Stations ..	283,648	32,815	9,507	241,326
	<hr/>	<hr/>	<hr/>	<hr/>
	\$6,322,785	\$68,993	\$2,654,234	\$3,599,558

Endowment—June 30, 1932

	Value
For student aid	\$ 384,917.80
For specific purposes other than student aid	4,724,975.35
Endowment—subject to annuity	110,353.04
For general purposes—permanent University Fund.....	5,618,845.11
	<hr/>
Student Loan Funds—Cash available	\$10,839,091.30
Notes receivable	\$ 33,386.80
	<hr/>
Total endowment	\$11,098,068.44

* Reduced to a full time basis.

College Reports

The Graduate School

THE University of Minnesota has so far been able to carry on its essential functions undiminished. Most essential of these, if it is to be a real university, is the support of research. Indeed in times like these, it is more important than ever. Depression breeds more social and political quackery than any normal period. It also breeds, or should breed, sound critical and constructive thought. Disinterested scholarship removed from party and group pressures and prejudices is never more precious than in times like these. It is true that its voice may not reach the masses so directly as that of the demagogue with his simple formulas for complex situations, but in the end the scholar who offers no quick panaceas and ventures few prophecies is the true prophet.

Selfish group interests are never more clamorous than on the eve of an impending change, whether it be a tariff law or a revolution of social values. At the present time they are going to great lengths to arouse the distrust of the unthinking in the activities and agencies of government established to secure the common welfare. They do not attack education and the schools directly. They might even deny, in good faith, that they meant to. But they are coming perilously near to it in every state and community where they seek to direct the economies forced by their own folly, against the most precious and the most defenseless of our social bulwarks, the schools. Indeed all the social services that reach the average man and make government worth supporting are in real danger, while the activities that benefit selected and organized groups are well defended and even seeking expansion.

I allude to the results of some of these economy campaigns because they can easily cripple such a social asset as the disinterested scholar and because so far in Minnesota they have not gone to the extremes I have seen where whole states are forfeiting the educational and social agencies that it has taken a generation to buildup.

Guy Stanton Ford, Dean
The Graduate School

The Graduate School

To the President of the University:

Sir: Tables presented at the end of this report show a registration of 2,881 graduate students at Minnesota during the four quarters of 1931-32, an increase over the preceding year of 422.

These figures are a matter of concern, not of congratulation. In the first place the increase at this time during an acute economic depression is in some degree an index of the blight of unemployment that has fallen as acutely upon the college graduate as it has upon other groups. Unable to find a position the only recourse of the frustrated graduate is to return and take more work. The increase in registration at this time is, therefore, no sign of an intellectual renaissance and of the zest for learning acquired during the student's undergraduate years. It often means quite the opposite, namely that the student who in personality and achievement is least promising and least likely to be placed with a Bachelor's degree fatuously supposes that by more residence on a university campus, or by an added degree, he will find the sesame that will open doors of opportunity now closed to him.

If this comment is taken too literally it would, however, give a distorted picture of the Graduate School clientele. At no previous time have the inquiries and applications for fellowships, assistantships, and for any form of self-help from high grade students come to my desk in such great numbers. This spring the Graduate School office, and every department was swamped with correspondence from students who had made records that justified the opportunities they sought for further training. To reply to such applicants for aid, that you could hold out no hope, was to be the unwilling agent of a social and educational system that compelled you to discourage those who were often the best social and educational investment.

All of this may be taken as a background for the administrative problem that has been facing this University and practically every other member of the Association of American Universities having a strong graduate faculty. No matter what the cause may be, the number of graduate students has increased beyond the capacity of some departments of the University to handle, except in the mass, and by undergraduate methods.

Such an internal condition, coupled with the external condition represented by a surplusage of degree holders in many fields, justifies any reasonable attempt to develop a selective process in the admission of graduate students. Hitherto such criteria as existed and were intermittently applied have been based on the rating of the institution giving the Bachelor's degree. Regional and national groups have painfully collected statistics of income, investment, library, faculty preparation, etc., and have in many cases followed up the questionnaire by personal inspections.

Once an institution was accepted by one of these rating groups, its graduates, backed by its president and faculty, felt justified in applying for admission to any graduate school.

The method, in want of any better one has merit. It has had a generally healthy effect on the colleges seeking approval, but it gives no assurance that the graduate school will secure a selected student group. It may, if blindly accepted, give admission to the "C" or "D" grade product of a well-equipped institution and refuse it to the student of genuine and rare ability, who has by necessity or misdirection survived, with intellectual integrity intact, residence at some monolithic, jerry-built institution called a college.

If there is to be a real selective process applied to admission to graduate schools it must go farther than the formalism of the present process. But how?

Finding out "how." The study of this "how" is just beginning. The North Central Committee headed by Dean Haggerty of our own University, and co-operating with the rating committee of the Association of American Universities, will certainly give us new standards for judging the effectiveness of institutions. A preliminary study of the records of twenty-two institutions, which have in recent years sent ten or more graduates to this Graduate School, gives a new picture of the product of these institutions on the basis of student performance. Such a study, extended to the records of the co-operating graduate schools, will set new standards for defining a college. But there still remains the problem of getting at individual merit and ability which may be concealed by a degree from a non-standard college. All kinds of experimentation should be welcomed. Here at Minnesota, two departments are trying, with the approval of the Graduate School, what approximates an entrance examination. The College of Education has been applying tests to the graduate matriculates in their fields and seeking by correlation with later records to determine the soundness of such a selective technique on the graduate level.

Out of this activity it is to be hoped something helpful will come. There never can be any last word about it, any absolutely perfect and easily applied selection, but we are driven to seek something better than the old idea of taking all comers and letting the law of the survival of the fittest work. The number of unfit, who always clamor for more attention and direction, have gotten in between the conscientious professor and the selected group who would profit from association with him, and the use of laboratory and library facilities.

The University's status. The University of Minnesota has so far been able to carry on its essential functions un-

diminished. The most essential of these, if it is to be a real university, is the support of research. Indeed in times like these, it is more important than ever. Depression breeds more social and political quackery than any normal period. It also breeds, or should breed, sound critical and constructive thought. Disinterested scholarship removed from party and group pressures and prejudices is never more precious than in times like these. It is true that its voice may not reach the masses so directly as that of the demagogue with his simple formulas for complex situations, but in the end the scholar who offers no quick panaceas and ventures few prophecies is the true prophet. In a certain sense it is fortunate that the national and world situation has revealed the hollowness of the pretences to leadership of certain groups all too dominant in shaping our national life and ideals. If they can be reduced to silence we may hear the voices of more disinterested leaders.

Unfortunately they are not silent, but are shouting their incantations in the ears of a sick society, hoping thus to direct attention away from the mistakes by which they produced the disability. Selfish group interests are never more clamorous than on the eve of an impending change, whether it be a tariff law or a revolution of social values. At the present time they are going to great lengths to arouse the distrust of the unthinking in the activities and agencies of government established to secure the common welfare. They do not attack education and the schools directly. They might even deny, in good faith, that they meant to. But they are coming perilously near to it in every state and community where they seek to direct the economies forced by their own folly, against the most precious and the most defenceless of our social bulwarks, the schools. Indeed all the social services that reach the average man and make government worth supporting are in real danger, while the activities that benefit selected and organized groups are well defended and even seeking expansion.

No one would deny that the present declining birth-rate, as well as previous periods of expansion called for a closer scrutiny and more careful planning in educational expenditures. But that is quite a different thing from the blind slashing that has gone on in many communities and states. It has been carried to the point where public services of all sorts suffer and governmental activity is stripped down to the care of office holders and political appointees who, as Professor Merriam has pointed out, always survive and are ever on hand to perpetuate themselves. They are safe because they have favors to grant or are themselves the beneficiaries of support from favored groups. The teacher and the scholar who serves no interest but the general good and the oncoming generation is too often defenseless. The public that owes more to a university or a public school system for its present material well-being than it does to a gaudy public building or a battleship makes the former object of ruthless retrenchment when a depression is on.

I allude to the results of some of these economy campaigns because they can easily cripple such a social asset as the disinterested scholar and lead the shortsighted to sell the birthright of their children and the future for a

cement road and a city auditorium. I allude to them because they have taken extreme forms in other states and because, so far, in Minnesota they have not gone to the extremes I have seen where whole states are forfeiting the educational and social agencies that it has taken a generation to upbuild.

Activity in research. In no biennium in its history has the University carried on so many studies and so much research of far-reaching importance. The story of this activity is scattered through the reports of my fellow deans. The reports of Dean Coffey as director of the Agricultural Experiment Station, of Dean Stevenson, and others are all part of the story of two significant years. In large part this has been made possible by funds supplied by the Federal Government and the great private foundations. It is a heartening story of trust put in our staff as leaders in their field and of a trust worthily met in their work so far. When they consider the significance of the selection of the University of Minnesota for a Child Welfare Institute, the Employment Stabilization Institute, a fund for research in the field of adult education, and the Rockefeller Foundation gift of a generous free fluid research fund, the alumni and the state of Minnesota have cause for congratulation on the recognition this implies. The men whose scholarship has given us this distinction are the reason also why our graduate registration rises when other units are stationary or declining. They are the men we must not lose by reason of any blind policy of economy. They are the state's best permanent investment and they can serve it now in any intelligent planning and readjustment that should be undertaken.

Any thoughtful reader can get a glimpse of what I refer to in the list of researches to which grants were made from the Rockefeller Foundation Fluid Research Fund and the bulletins and monographs published by the University Press. Probably as soon as this report is printed there will also appear the study by Professor Blakey and his associates of the taxation system in Minnesota. Without bias this group has gathered and will present a dispassionate picture of Minnesota state taxes. Other states have called Professor Blakey to do a similar service for them at considerable public expense. In this forthcoming volume he does this as a service by the University to the state of Minnesota and without the expenditure of a dollar by the state for its preparation and publication and without reference to any interests but those of scholarship and the public.

Everywhere industrialists and the press and the advertisers and the economists have concerned themselves with production and distribution. Consumption and the consumer have seldom figured in any careful studies. Professor Vaile and Dean Stevenson again supported by the Fluid Research Fund are engaged in an interesting and significant series of studies in the field of consumption and the means by which the consumer is served or not served by the present means of distribution through different forms of retailing in groceries, fuel, gasoline, etc. These studies will form a series almost unique in this neglected field.

I cannot fail to allude at least to Professor William

Anderson's study of the multifarious and overlapping units of government in state and nation. Minnesota has more than ten thousand of these bulwarks of democracy and strongholds of the petty politician. Just to see ourselves as no one has ever seen us may help us to clothe democracy in something more appropriate and effective than these rags and tatters handed down from a dead and disappearing social, economic, and political past. Professor O. B. Jesness and his associates have made the beginnings of a study of land utilization that with Dr. Scammon's study of what is happening to our population will lay the basis ultimately for state planning when the state is convinced as it must be that what it is suffering and will suffer from in the future is not "growing pains," but "settling down pains." Minnesota is no longer a young state. It is at least middle aged. That ought to justify some attention to preserving and husbanding and utilizing every resource we now have in sight. Only research can make the old ones into newer and more valuable ones for a population that, unless a miracle happens, will grow no faster than the old countries of Europe. The laboratory of the scholar and not the office of the real estate agent boomer will create our future increase in wealth. Every state, and most of all Minnesota, will have to shift its social investments so that it can procure and keep and train brains and then more brains. If some of those that are trained go forth into public life they too will be precious for they can give a literate democracy the programs and issues that make it worth while to have a literate citizenship.

This is only an incomplete picture of what our staff is doing in its studies of the state's social and economic life, its natural resources and its population. I can only allude to the studies of what is our greatest personal and social asset, that is, individual and public good health. Our medical staff supported by special research funds that are administered through the Graduate School and by the Mayo Foundation has under way many important investigations, most of which are on problems that cannot be solved in a day. The results when attained go out to the medical profession and the world of science and ultimately mitigate or banish some of the ills from which all mankind has suffered.

One other thing is beyond my assessment, and it is, though a by-product of inspiring teachers, above all material things in value. It is the creation of ideals and the building of loyalties to things not measured by dollars or foot pounds of energy. It is in its essence the love of beauty and the pursuit of that which is just and fair and of good repute. A graduate school is not organized for such things, one may say, but sometimes it may have among its scholars one who is supremely loyal to such a conception of his teacher's task. Minnesota had such a scholar in Professor Oscar W. Firkins, and his death leaves it much, much poorer.

The wealth that he and the graduate faculty have created in the training of young scholars who have attained our highest earned degree, that of doctor of philosophy will be revealed in the catalog of over six hundred holders of that degree which will be published this fall.

Such a list might well be substituted for this report and for all other reports that I have submitted in the name of the Graduate School.

CLASSIFICATION OF GRADUATE STUDENTS ACCORDING TO DEGREES APPLIED FOR

	1930-31	1931-32
Master of arts.....	1,117	1,301
Master of laws.....	0	1
Master of science.....	679	786
Engineering degrees	13	7
Doctor of philosophy.....	484	624
No degree desired.....	166	162
Totals	2,459	2,881

CLASSIFICATION OF GRADUATE STUDENTS ON THE STAFF ACCORDING TO RANK

	1930-31	1931-32
Professor	2	2
Associate professor	4	2
Assistant professor	10	14
Professorial lecturer.....	4	3
Instructor	172	174
Teaching fellow.....	70	83
Assistant	230	261
Mayo Foundation fellow.....	310	307
Shevlin and special fellows.....	22	31
Totals	824	877

CLASSIFICATION OF GRADUATE STUDENTS ACCORDING TO AMOUNT OF WORK REGISTERED FOR

	1930-31	1931-32
Men registered full time.....	329	453
Women registered full time.....	153	203
Men registered part time.....	493	618
Women registered part time.....	282	315
Men registered full time on Mayo Foundation	292	286
Women registered full time on Mayo Foundation	18	21
	— 1,567 —	1,896
<i>Summer Quarter</i>		
Men registered full time.....	333	331
Women registered full time.....	180	134
Men registered part time.....	184	290
Women registered part time.....	195	230
	— 892 —	985
	— 2,459 —	2,881
Total men registered, 1930-31.....	1,631	
Total women registered, 1930-31.....	828	
	— 2,459 —	
Total men registered, 1931-32.....	1,978	
Total women registered, 1931-32.....	903	
	— 2,881 —	

Foreign students registered in the Graduate School of the University of Minnesota numbered 116 in 1930-31 and 123 in 1931-32. In each year the largest numbers came from Canada, China, and Germany, respectively, those countries sending, in the first and second years of the biennium 48 and 67, 13 and 11, and 14 and 8. In the first year of the biennium there were seven from the Philippine Islands, and in the second, two. Other countries that

REPORT OF THE PRESIDENT

sent from one to four students to Minnesota in one or both years were Argentine, Armenia, Australia, Austria, Belgium, British Columbia, Denmark, England, France, Haiti, Hawaii, Holland, India, Ireland, Italy, Mexico, New Zealand, Norway, Palestine, Poland, Russia, Scotland, South Africa, Spain, Sweden, Switzerland, and the Ukraine.

Other duties took me out of the office during the fall and winter quarters. I want to express for the graduate faculty as well as for myself our appreciation of the services rendered by Dr. C. M. Jackson as acting dean during that period.

Respectfully submitted,
GUY STANTON FORD, *Dean*

The Department of Agriculture

AS never before in the history of the Department of Agriculture, farmers and all others concerned with the use of land, are turning to the University, eager for information that will help even a little in increasing their cash incomes. In the various divisions and branches of our work we are doing what we can to supply such information. We are convinced that the difficult situation in which the farmer is placed requires him to manage his enterprise as skillfully and economically as he can. In good times and bad the farmer and the educational agencies that serve him must be aware of the biological nature of agriculture. As society is now organized, a farmer who fails to be efficient in dealing with the soil, growing crops, and handling livestock, cannot succeed. This is a reality which we of the Department of Agriculture constantly face, despite the view frequently expressed during the past decade that farmers are too efficient with production; that because of their efficiency they have brought about ruinous prices through production.

But competency in agricultural production can be measured only in part by the volume and quality of product secured per unit of land. The cost of production must be determined before pronouncement can be made regarding any farmer's efficiency. Therefore, our research and teaching programs, as they apply to the biological phases of farming, are addressed to the economical production of crops of desirable quality. The farmer who is competent as a manager, realizes that in addition to the able handling of labor and equipment, consideration must be given to the fertility and tilth of the soil, improved varieties of crops, and animals of high quality and yielding power if he is to produce high class products at low cost.

But our responsibility to agriculture and other industries involved in the use of land, the chief of which is forestry, are not fully discharged by giving attention merely to production and marketing problems. During the past decade American agriculture and forestry have been passing through a revolution and in facing future realities we are conscious of needed modification and changes in policies if these industries are to remain basic, and economically and socially satisfactory to those who engage in them. The more outstanding policies we have in mind relate to land use, taxation, and financing.

Walter C. Coffey, Dean
The Department of Agriculture

The Department of Agriculture

To the President of the University:

Sir: American farmers have been handicapped during the past twelve years (1920-32) by low prices for their products. Until 1929, however, Minnesota farmers were able to make adjustments in their farm enterprises and improvements in their methods, which in considerable part, overcame their disadvantage with respect to prices. But since 1929, when a severe economic depression spread to practically all lines of business, prices for all agricultural products have dropped to such low levels that most of the farmers of the state have found it impossible to pay taxes, interest on indebtedness, and to provide for the minimum of needed expenditures out of income from current farm sales. In other words, agriculture, as a whole, has been a losing enterprise in Minnesota during the past three years.

In view of the difficult situation in which they are placed, the farmers of the state are displaying commendable courage and fortitude. Although they have suffered many disappointments, they have not given up hoping and planning for better times. Being witness to the mental anguish and physical suffering of thousands of the urban unemployed, they realize some of the recompenses of agriculture which are overlooked in prosperous times.

But the nature of the situation is such that the most courageous and hopeful find it hard to maintain a constructive attitude toward agriculture. When they cannot provide the funds necessary to send their children to our schools of agriculture or to our college, they fail to see in farming a desirable life career for intelligent farm boys. When crop returns do not pay running expenses, they cease to regard land as a safe and wise investment.

The present interest in better methods of farming comes very largely from motives of mere subsistence. While there have always been mere subsistence farmers, and probably always will be, a permanent viewpoint which looks upon agriculture as only a means of subsistence for those who engage in it cannot be constructive. Such a viewpoint is wholly contrary to the statesmanlike idea of conserving indefinitely the normal producing power of the land. Subsistence farmers in America have always been land exhausters, or land robbers, and doubtless always will be until they reach the point where their only possibility for existence depends on conserving a minimum of the producing power in the land. We of the Department of Agriculture are disposed, therefore, to resist any trend in public thought which would come to regard farm land as a place of retreat for those who can expect nothing more than mere subsistence.

As never before in the history of the Department of Agriculture, farmers and all others concerned with the use of land are turning to the University, eager for information that will help even a little in increasing their cash

incomes. In the various divisions and branches of our work we are doing what we can to supply such information. We are convinced that the difficult situation in which the farmer is placed requires him to manage his enterprise as skillfully and economically as he can. In good times and bad the farmer and the educational agencies that serve him must be aware of the biological nature of agriculture. As society is now organized, a farmer who fails to be efficient in tilling the soil, growing crops, and handling livestock cannot succeed. This is a reality which we of the Department of Agriculture constantly face despite the view frequently expressed during the past decade that farmers are too efficient in production; that because of their efficiency, they have brought about ruinous prices through overproduction.

But competency in agricultural production can be measured only in part by the volume and quality of product secured per unit of land. The cost of production must be determined before pronouncement can be made regarding any farmer's efficiency. Therefore, our research and teaching programs, as they apply to the biological phases of farming, are addressed to the economical production of crops of desirable quality. The farmer who is competent as a manager, realizes that in addition to the able handling of labor and equipment, consideration must be given to the fertility and tilth of the soil, improved varieties of crops, and animals of high quality and yielding power if he is to produce high class products at low cost.

Production and marketing. In facing immediate realities we can be of most help by attacking problems of production and marketing, the evidence of which consists of numerous and insistent appeals for assistance along these lines. The specific procedures by which we are attempting to give this help are discussed under the headings of experiment station and extension service appearing later in this report.

But our responsibilities to agriculture and other industries involved with the use of land, the chief of which is forestry, are not fully discharged by giving attention merely to production and marketing problems. During the past decade American agriculture and forestry have been passing through a revolution and in facing future realities we are conscious of needed modifications and changes in policies if these industries are to remain basic and economically and socially satisfactory to those who engage in them. The more outstanding policies we have in mind relate to land use, taxation, and financing.

During the past year a committee has given as much time as its members could set aside from their regular duties, to the formulation of a comprehensive statement on the utilization of land. We believe such a statement,

representing the best thought not only of the committee but also of many others in the Department of Agriculture and other divisions of the University, will be of value in developing land policies suited to modern conditions. To date, practically all of our state and national land policies have encouraged the rapid transfer of public lands to private ownership with little regard given to the uses to which these lands were naturally best adapted. Until very recently the general assumption has been that more and more land should be brought under cultivation in order that the growing populations of the world might be fed. Now, students of population trends are predicting that in this and most European countries a state of stabilization with respect to population will be reached in a comparatively short time, probably before the close of the present century. We at least know that the rate of population increase in these countries is slowing down, and, therefore, we have dismissed the fear of being unable to support the human race because of lack of land on which to grow food. Having dismissed it, and realizing that for a decade the agricultural plant in the United States has been over-expanded as measured by paying prices for agricultural products, we are made increasingly aware of the inadequacy of our land policies.

We have been witness to economic waste and social maladjustment arising from an extensive attempt to cultivate land unsuitable for farming under normal conditions. And from this experience we realize how any policy of land use may lead us astray if based on broad and unstable assumptions. Therefore, policies which carefully evaluate the suitability of the land for given uses and set up the conditions that should obtain with respect to taxation, financing, etc., constitute an important factor in stabilizing agriculture and all other industries largely based on land use.

Competition between lands. Indirectly, a high state of competition exists between lands given over to the production of the major crops in the United States. There is competition between lands devoted to the same crops, that is the corn land of Iowa competes with the corn land of Minnesota. And there is competition between lands assigned to different crops. Although it is indirect, there is, nevertheless, competition between the corn lands of Iowa and the wheat lands of the Dakotas. This matter of competition between agricultural lands must be taken into consideration by any state in formulating its land policies. It is a matter which also emphasizes the importance of suitable national land policies even though each and every state must assume responsibility for policies covering problems peculiarly its own. It is fortunate that a National Land Use Planning Committee was created last November (1931) in a National Land Use Conference called by Arthur M. Hyde, secretary of the Federal Department of Agriculture. The state agricultural colleges and experiment stations are represented on this committee and we of the Department of Agriculture are co-operating with it.

The need for an adequate land policy for Minnesota is most apparent because of its extensive areas of marginal and submarginal land for agricultural purposes. At one

time it was customary to regard practically all cut-over land as potential farm land. However, with the tide of public opinion turning against the constant expansion of the agricultural plant, it has become rather customary to regard all marginal and submarginal agricultural land as potential timber or forest land. But because of numerous financial and biological factors involved in reforestation, this view is open to serious question. Hence from the standpoint of both agriculture and forestry the need of suitable land policies for the state is quite evident.

Land Utilization

Report of the Departmental Committee

The report of the Committee on Land Utilization has not been presented in final form but its tentative statement has been submitted and reviewed by each division in the department both at University Farm and the branch stations. The following brief summarizations from certain sections of the report are given as an indication of its significance.

Present land uses. The total land area of Minnesota consisting of farms, forests, and submarginal land amounts to 51,749,120 acres.

In 1930, 30,913,400 acres were in farms; 19,490,700 acres were used for crop production; 8,247,800 for pasture; 1,090,100 for woods not pastured, and 2,084,725 for other purposes. The acreages in farms and crops were both greater in 1930 than in any previous period.

The farm acreage was operated by 185,255 farmers, 126,600 being owners, 1,047 managers, and 57,600 tenants.

The total forest area is approximately 22,000,000 acres. About 20,200,000 acres are suitable for growing commercial timber; about 770,000 acres are in parks, resorts, etc., and about 930,000 acres are unfit for forest purposes.

For most part, the original forest has been cut. Counting both virgin and second growth forest land it is estimated that there are approximately 1,600,000 acres of saw timber and 2,690,000 acres of cord wood. The area in a state of restocking amounts to 13,070,000 acres of which 3,640,000 acres may be rated good, 6,370,000 acres fair, and 2,960,000 acres poor.

At the present time approximately 16,924,000 acres of the forest land (28 per cent being in woodlots) are in private holdings, 1,030,000 in state forests, 487,000 in other state holdings, 1,009,000 in national forests, and 750,000 in Indian reservations. Because of land tax delinquencies the amount of state controlled land is increasing.

It is difficult to estimate the area of land that is submarginal either for agriculture or for forestry. The amount of such land changes with changing economic conditions. There are at least 930,000 acres of open muskeg and swamps in the state too poor for farming or for growing merchantable timber in a reasonable length of time. There is a relatively large area (unestimated) of potential forest land which is submarginal at present because such factors as adverse economic conditions, distance from markets, existing condition of the forest due to past abuses, low productivity, or age and high costs of rehabilitation.

Factors affecting land use. Any attempt to tell why certain lands are used for certain purposes or to forecast probable future land use necessarily involves consideration of a variety of factors. Physical characteristics of the land, such as soil type, topography, and drainage are important; likewise climatic factors, such as temperature and rainfall. Location with respect to markets and means of transportation to market are clearly influential. Use is a result of demand, and one is confronted with problems of ascertaining demand, both absolute and relative, for different products. Capital availability, artificial stimulation, and tariffs or other restrictions on the free flow of goods, are other factors to be considered.

The problem of arriving at the best use for any specific tract of land or area, therefore, is one of great complexity. The governing economic principle is that of comparative advantage. Some areas have comparative advantage in certain lines while other areas have such advantage in other lines. Thus we have the cotton belt, the corn belt, milk producing areas, butterfat areas, and the like. Comparative advantage is the result of the operation of the forces referred to above. Because the exact influence of these forces cannot be measured and because they do not remain constant, the result must be expressed as a tendency. Inability to measure and interpret the forces correctly leads to mistakes. Changes in their influence makes necessary changes in the use of the lands.

The principle of comparative advantage involves competitive relationships. There is competition in the same use between different areas and competition for different uses in the same area. The use of land for corn in Minnesota is affected by the use of land for corn in Iowa and other states. Wheat growing is affected by situations in many parts of the world. Minnesota formerly was a leading wheat state. With changing conditions, dairying, hog production, and the production of feed crops have largely replaced wheat growing. This is merely a working out of the principle of comparative advantage.

Land use must be thought of as dynamic rather than static. The present agricultural use of land in Minnesota is vastly different from such use a generation ago, and the use a generation hence is likely to show much change from the present.

Industrial developments have some effect on land use. Wheat growing in the state was furthered by the development of the milling industry which built up markets convenient to producing areas. However, the presence of the milling industry in the Northwest is not of enough influence to prevent shifts in agriculture which have reduced the area of wheat land.

The decline in lumbering has had a bearing on land use by depriving the settler of part time labor in lumber camps and reducing the outlet for his farm crops. This situation has been mitigated somewhat, however, by the coming in of paper, pulpwood, and other wood using establishments.

Developments in iron mining have had some influence on land use because mining towns provide an outlet for various local farm products and thus encourage land settle-

ment. Such settlement will be materially affected by future developments in this industry.

The establishment of meat packing plants in the state is of some influence in increasing the production of livestock, and growth in this industry is a factor in land use.

Various manufacturing and industrial developments in the state will affect the use of land but perhaps more with respect to the kind of use than to the total amount of land required. As our industrial centers become more populous we would expect larger demand for products such as milk, and truck crops which are more satisfactory if locally produced.

Increasing use is being made of land for recreational purposes. The automobile and improved roads have done much to attract outside people to the unique recreational features of the state. Frequently lands suited to recreation are not well adapted to other uses and hence an outlet is often secured for land not adapted to any other particular purpose.

The artificial stimulation of land use has not been uncommon. Many settlers have been attracted to land through the efforts of owners whose ostensible purpose has been to sell and they have not been backward in picturing the possibilities of economic development. Unfortunately some of these efforts have been misdirected and misguided. Because of the unfavorable social and economic consequences of unwarranted settlement as they relate to both the settler and the locality some curb to evident overstimulation in selling land should be employed.

State lands and state land policies. The supervision and management of all state land was placed under the control of the Conservation Department by the Conservation Act of April 17, 1931 (Chapter 186, H. F. 1159 of the *Laws of 1931*). Apparently the policy of this department is to retain for the present all lands now in state ownership. All such land of value for water power or desirable for the development of state parks, game refuges, public hunting grounds, and state forests will be held permanently by the state. Lands outside the boundaries of established state forests or state forests yet to be established, state parks, and the Red Lake Game Preserve, which are of no value for minerals or power development, may, upon examination and appraisal, be sold or exchanged, on a value basis, for lands now privately owned within the boundaries of the state forests or game preserves.

In 1931 a total of 6,830,840 acres, or 44 per cent, of the taxable area in the cut-over or timber region of the state were tax delinquent. The future use of the privately owned lands in this region will undoubtedly be complicated by this widespread and general tax delinquency. Under the Act of April 5, 1927, (Chapter, 119, H. F. 496 of the *Laws of Minnesota for 1927*), tax delinquent lands which are not redeemed within five years following the tax sale of 1928 and each year thereafter, will be forfeited to the state as trustee for the various tax collecting units, state, county, township, etc. which have an equity in the delinquent taxes.

It is probable that some of the lands may be incorporated in state forests, state parks, or state game pre-

serves, or used as a basis for land exchange with owners of private land within the boundaries of state forests, game preserves, etc.

What the state may ultimately do about the tax delinquency situation, where delinquency is or may become general, is indicated by the creation in 1929 of the Red Lake Game Preserve (Act of April 19, 1929, Chap. 258, H. F. 619 of the *Laws of Minnesota, 1929*).

The 1931 Legislature indicated somewhat more clearly the probable trend of settlement and the possible line of action to be taken with reference to tax delinquent lands which pass into the possession of the state as trustee for itself, and the local taxing units. Under the Act of April 25, 1931 (Chap. 407, H. F. 660 of the *Laws of 1931*) there is authorized the creation of "reforestation or stream and lake regulating areas" in any county in which the taxes on more than 35 per cent of the total area of taxable land were delinquent on January 1, 1931, and in which the bonded ditch indebtedness, including accrued interest, equaled or exceeded 9 per cent of the assessed valuation of the county exclusive of moneys and credits. These areas are to be created at the request of the county commissioners of the county within which the tax delinquent lands lie. Before such "reforestation or stream and lake control areas" are accepted by the state they must be approved by the Department of Conservation and by the Executive Council. If so approved the state is thereupon to assume responsibility for payment of a portion of the county's ditch indebtedness in a manner similar to that in the Red Lake Game Preserve case, and to become the owner of the forfeited tax delinquent lands within the boundaries of such areas.

A land policy for Minnesota and a partial program to improve land use in the state. A public policy defines certain objectives and outlines the program by which those objectives are to be achieved. The general objective of a land policy should be the most effective utilization of land resources over a long period as well as at any given time. Conservation of resources is a phase of long time utilization. To achieve this end, a land policy must have, as an objective, the guiding of land use.

Public lands. In formulating a policy for publicly owned land, consideration should be given not only to land so owned at present, but also to the acquirement of additional land by the public. It is very clear now that the policy of getting public lands into private ownership as rapidly as possible went too far. For example, if forest lands had remained in public ownership, control of the use and replacement of forests could have been established. By withholding some areas from agricultural use certain unfortunate results from attempted settlement of unsuitable lands could have been prevented. Any sound land policy should look toward the stabilization of land ownership. This may have been the objective in getting public lands into private hands, but the effect has been to destabilize ownership and it now appears that the state must expect to be a permanent land owner.

At present there is no need or opportunity for an extensive transfer of public lands to private ownership.

Through the processes of tax delinquency chiefly, the trend is in the other direction.

With increasing amounts of land reverting to the state it would seem that the first step in formulating a policy for public lands would be to classify both public and privately owned lands particularly in those regions where extensive reversions to the state are likely to occur or where, for various reasons, it may be advisable for the state to acquire some lands and to dispose of others. In other words, the problems surrounding public and private lands cannot be completely divorced. In many of their physical and geographical aspects their problems are the same, and what is done on public land may be of significance to the holders of private land and vice versa. In making a classification which will serve in formulating a comprehensive program such factors as the following should be considered—soil, present cover, drainage, topography, climate, and location. Also the need of land for various economic uses as agriculture and forestry; the need and importance of watershed protection, preservation of fertility and reduction of erosion, and the recreational use of land.

Forests and Game Refuges

State forests. Minnesota already has begun to build up a state forest system. This appears to be an opportune time for the development of that system. State forests should not be established, however, merely because large areas of tax delinquent land are available. In general, the poorest areas first become tax delinquent. State forests should be established at this time only if the available land is of more than average suitability for forest production.

The mere acquisition of land by the state and its placement, under the supervision of the Conservation Department, does not of itself establish a state forest irrespective of the fact that it may be so-called. The building up of a producing forest worthy of the name requires the expenditure of money for administration improvements, cultural practices, and more than average fire protection.

Prospective state forest areas should be carefully examined to determine the productive capacity of the land, the potential markets, and the other economic factors which may contribute to the stability and success of the undertaking. If tax delinquent land suitable for state forests is not available, then it may be expedient for the state to purchase suitable land, rather than to accept unsuitable land for the purpose because it can be obtained more cheaply. Cheap land may result in expensive state forest operation.

When state forests are established, the state must recognize that additional funds must be made available for their administration. Merely designating an area as a state forest in no way changes its productivity for forest crops. Plantings, thinnings, and improvements must be made. These require the expenditure of considerable sums of money. Therefore state forest areas must be selected wisely. In general only the better forest land should be included in such forests. Based on present trends and European experience a program looking forward to a

state forest area of from three to five million acres appears reasonable and desirable.

National forests. The present area of the national forests in Minnesota is 1,090,000 acres. The national forest area should be enlarged, but this enlargement should supplement rather than compete with the state forest program. Ordinarily land for national forest purposes is purchased by the Federal Government at the going price of land in the particular locality. Obviously more land is now available for national forest purposes in the eastern United States than can be acquired through any reasonable program of federal acquisition.

Minnesota may well consider the advisability of encouraging the Federal Government to increase its national forest areas in the state. As the Federal Government has been expending some 35 cents per acre annually in the administration and protection of its national forest area in Minnesota, it may be expedient, should the state acquire an excess of suitable forest land, to transfer such lands to the Federal Government for national forest purposes. The state's interests should, of course, always be considered and protected in such transfers.

The acquisition of game refuges, and reforestation and stream and lake regulating areas. The Red Lake Game Preserve was created by the legislature in 1929. This step was taken, not so much to preserve game, as to acknowledge the state's share in the responsibility for the financial plight of certain northern Minnesota counties because of delinquent ditch assessments. The legislature in 1931 authorized the creation of reforestation or stream and lake regulating areas, financial conditions of localities rather than suitability of the areas for these purposes apparently being the major consideration.

The question here is not one of whether the state is justified in coming to the aid of local units in financial straits. The point is that this aid should not be confused with other purposes such as game preservation, reforestation, and water-level control. Financial relief measures and conservation measures should be adopted on their respective merits.

The use of land for industrial or private forestry. For years American foresters have had faith in the commercial possibilities of land privately owned and used for timber growing. For various reasons, little progress in industrial forestry has been made. Many factors account for this. The length of time involved in growing a crop of timber definitely limits the amount of initial investment which the operator is justified in making because of the interest charges. Uncertainty as to the future demands for wood products also discourages activity. The possibility of fire loss is another deterrent. Another problem is that of taxes. The amount of taxes the operator feels he can pay, during the period of tree growth when he is deriving no cash income, is limited. He is also faced with the uncertainty of future taxes.

Minnesota enacted the Auxiliary Forest Law in 1927 in the hope that it would stimulate industrial forestry by removing uncertainty as to taxation. The law in its present form does not serve the intended purpose. This is in-

dicated by the fact that to date not a single acre of land has been listed under it. The law needs to be revised. Among the changes which appear desirable are provision for some advance, say 5 or 10 cents an acre annually, from state funds to local taxing units, and the placing of the decision as to classification with the State Conservation Commission rather than in the hands of county commissioners.

Fire protection. Over twenty million acres of land are at present available in Minnesota for the production of forest crops. Whether or not forest crops are produced will depend largely upon the adequacy of the protection of these areas from fire. It is of little consequence for the moment whether these lands are in public or private ownership. Private or industrial forestry without effective control of fire is unthinkable. Public forestry without adequate fire protection is a delusion.

Privately owned agricultural land. In the case of privately owned agricultural land, it is in the public interest to have it farmed efficiently by operators who can maintain a purchasing power that permits high standards of living, the maintenance of soil fertility, and the control of erosion. Already serious problems are arising in Minnesota because of the declining productivity of much of our farm land. They call for public consideration and assistance in their solution. Many public agencies have found it advisable to co-operate with rural people in an attack on animal and plant diseases and pests in the interest of the public welfare. Equally important are such problems as farm finance with respect to availability of credit suited to production requirements, taxation of land at fair and just rates based on earning capacity and ability to pay, methods of obtaining insurance against farm risks, and advisable types of investment for maximum efficiency of production.

Land Economic Survey

The legislature at its 1929 session authorized the Department of Conservation to make a land economic survey and appropriated funds for that purpose. It was stipulated that the survey should be made in co-operation with the Department of Agriculture of the University. In accordance with this, the University has served in an advisory capacity in connection with the survey work undertaken and is participating in the preparation of the report, principally through the Divisions of Forestry, Soils, and Agricultural Economics. The initial appropriation was employed in making a detailed survey of Hubbard County. The 1931 session of the legislature made an appropriation for the publication of the results of this survey but did not provide funds for its extension to other areas.

The survey of Hubbard County involved a survey and mapping of the cover of the entire county; a survey and mapping of the soils; and a survey of such economic factors as tax delinquency, land ownership, land use, mortgage indebtedness, economic development, and certain public services.

The results of the survey make available detailed information which, in addition to being directly applicable

to Hubbard County, will be of guidance in determining upon needed changes in policies of land use for a much larger area. The cover survey reveals the existing situation of land use and the type and amount of timber growth. This has a direct application to problems of forestry. The survey of soils yields information regarding the make-up of soils essential to an adequate determination of appropriate use for different lands. The economic data throw light on the existing economic development and on the costs involved in public services regarded as essential in the settlement of land.

The amount of tax delinquency existing in many areas in northern Minnesota is clear evidence of the problem of land utilization confronting the state at the present time. Results of such surveys as that carried on in Hubbard County supply information directly applicable to the solution of this problem.

The Experiment Station

The researches of the Experiment Station are organized for the most part on a long-time basis. In the biological researches replications and measurements must be taken and trials repeated many times to overcome the effect of climate variations and environmental influences. Owing to the constantly changing character of the agricultural industry, many researches must be continuing in order to furnish information applicable to changing conditions. In the social sciences, likewise, there are wide fluctuations in economic forces and reactions, and analyses made or conclusions reached on short time observations and records are likely to be misleading. With a view to getting reliable data and representative samples, many of these researches also must extend over a period of three to five years. It becomes difficult, therefore, to bring into view as the result of any year or biennium the specific results obtained. Yet, it is true that progress is made from year to year and that certain findings, when released, can be at once applied to some phase of the agricultural industry. The researches of the Experiment Station in the biennium covered by this report have yielded much information of value to farm operators in these days when strict economy of labor and material is required to insure even moderate returns from the farm investment.

A study made of the human factor in agriculture is of particular significance because it is a venture into a new and important field. It is a pioneering study of the forces motivating farm operators and influencing them in their decisions and judgments. It is an attempt to evaluate the influence of such factors as ambition, industry, inheritance, education, and the spirit of co-operation in securing profits from farms. The study was based on financial records from 160 or more farms in southern Minnesota over a period of three years, followed by a personal visitation and survey of the farms and the farmers. The study has already awakened a wide interest among investigators in the farm economic field and additional studies have been initiated in other states. The Bureau of Agricultural Economics of the United States

Department of Agriculture co-operated in this study and has assisted in preparing a manuscript for publication as an Experiment Station bulletin.

Special attention has been given also to methods of assessment against farm land. The tax burden of some taxpayers may be heavy not only because of the amount of public service required in proportion to the tax paying ability reached but also because of inequalities in the distribution of the burden. One source of such inequality is found in variations in property assessments. For that reason, a study has been made of the results obtained in the assessment of farm lands. Comparisons have been made between the true and full value arrived at for assessment purposes and the sales price of a large number of farms which have been sold. These comparisons reveal wide differences between the two values. Considerable variation naturally is to be expected because assessment and valuation are dependent upon judgment. The results of the study show the existence of certain definite tendencies. Low value properties tend to be assessed at a relatively higher proportion of their value than do high value properties. As a result, properties of low acre values tend to bear relatively more than their share of the tax load. Wide variations were found in the assessment of properties of similar sales values resulting in inequalities. Less variation of this kind is indicated in the case of high value properties.

The results of the study point to the importance of having assessments for tax purposes placed on the best possible basis. Accuracy in assessment is not to be expected from part-time workers with no special training or ability. Assessing is a technical matter requiring skill and training. The system of making assessments should be adapted to this end. Taxpayers also can assist in obtaining a more equitable distribution of the tax load by insisting upon a fair valuation of property for taxation purposes.

Some consideration has been given to the problem of tax delinquency so prevalent in some parts of the state. It is apparent that a considerable part of such delinquency in the case of lands is primarily a problem of land use and must be attacked from that standpoint.

Farm credit. Minnesota farmers use a large amount of credit. The United States Census for 1930 reported that 54 per cent of the farms operated by owners in Minnesota were mortgaged. Reports of the Bureau of Agricultural Economics give \$560,000,000 as the estimated farm mortgage debt of the state in 1928. With low incomes prevailing, the burden of indebtedness has become very great and many farmers have been unable to meet financial obligations. As a result, thousands of farm mortgages have been foreclosed and the title to much land has passed into the hands of creditors.

In studies of agricultural credit, special attention has been given to the extent and causes of foreclosures. A group of 526 Minnesota farms held by a leading credit agency as a result of foreclosures was compared with 1,427 farms on which this agency had loans in good standing. This study shows that the larger share of the

foreclosed farms were purchased during periods of high land values, that the indebtedness was greater and that the farms were not as well improved. There is also evidence to show that on the average the management was inferior on foreclosed farms. Further studies of the location of foreclosed farms show that a larger proportion of the farms located in areas where land is of low productivity have been foreclosed than in areas of better farm land.

The studies on foreclosures emphasize the fact that conservative and effective use of credit is essential to success in farming. They also point out the dangers of overcapitalization of farm land values. Furthermore, they indicate that considerable readjustment in farm mortgage indebtedness will be made before agriculture can be placed on a profitable basis.

Improvement of plants has been an outstanding feature of the research work of the Experiment Station for many years. In both field and horticultural crops significant contributions have been made to the agriculture of the Northwest. Improved varieties upon final test and official recommendation are quickly adopted by seedsmen and farmers and become the commercial varieties of the state. The rapid results obtained are possible because of the sound scientific basis on which the researches are founded.

Studies of variability in varieties of spring wheat have led to the development of a new method of determining the germinal instability of wheat varieties and hybrids. The frequency of the production of certain cytological (i.e. plant cell structure) irregularities was found to be positively correlated with the variability of the offspring in easily measurable characters, such as height, weight of grain, and fruitfulness. This step clarifies the procedure in eliminating strains of poor quality and in bringing the good ones to the fore.

Investigations in the field of plant genetics constitute a large item in the field crops research. Continuing studies of the factors determining plant reactions have yielded knowledge immediately applicable in securing varietal improvement in yield or behavior or in securing immunity to certain plant diseases.

Several new varieties have been developed in the plant nurseries for distribution and placed on the list of varieties recommended for use in Minnesota. The names of varieties so recommended are Redwing flax, Minrus oats, Minnesota No. 2303 spring wheat. Several lines of corn which were developed by hybridizing have been released to farmer growers for production of so-called double crossed corn which carries the quality of high yield.

Further trials of reed canary grass have demonstrated its economic value for pasture or hay on low, moist land. The Experiment Station has been active in encouraging its use for such purposes. It promises to become a grass of great economic importance on the peat lands and swamp lands of the state.

One of the most important phases of plant improvement is the production of disease resistant varieties. The

station has already developed some highly rust resistant spring wheats. It has been found, however, that continued effort is necessary to maintain rust resistant varieties. Studies made by the plant pathologists of the station have shown not only that there are more than 100 distinct biologic strains of the wheat stem rust fungus, but that new ones are being produced by hybridization between existing strains on the barberry bush where the effectual stage of the rust occurs. These studies show the necessity of eradicating rust-susceptible kinds of barberry from grain growing regions not only to reduce the amount of rust but to prevent the production of new parasitic strains which may increase the difficulty of obtaining rust resistant varieties. The discovery has been made also that certain wheat varieties develop a structural resistance as they approach maturity and may therefore be fairly resistant to all parasitic strains. There are indications that under certain conditions the rust is unable readily to enter certain varieties apparently because of peculiarities in stomatal behavior. The discovery of wheat varieties having all three types of resistance is of great importance in the breeding of resistant varieties.

Basic researches on physiologic specialization and the genetics of cereal smut fungi have led to the discovery that certain wheats, such as many of the durums and Marquis bread wheat, long resistant to bunt in the spring wheat region have become susceptible because of the appearance of new parasitic strains of the bunt fungus. Therefore, a comprehensive investigation has been made of the genetics of cereal smut fungi in general. As the result of these extensive investigations it has been found that cereal smut fungi comprise numerous physiologic forms or parasitic strains and that new ones evidently are continually being produced by hybridization and in some cases by what appears to be mutation. The results have led to a better comprehension of the smut problem and have furnished information of value in the technique of developing smut resistant varieties.

Survey of Lake County cut-over lands. In determining the value of apparently idle cut-over lands for forestry purposes, it is important to have definite information concerning the kind, age, and amount of tree growth on them. In order to secure more definite information concerning the conditions and value of northern Minnesota cut-over lands, a survey of Lake County was made. The forest condition in this county is typical of much of northeastern Minnesota. The results may be regarded as indicative of the condition of the cut-over lands throughout a large part of the region. Forty-six sections of cut-over land were examined extensively. These sections were scattered throughout the county in order to cover as wide range of conditions as possible.

The popular notion that the cut-over areas are largely barren has no foundation in fact. The data collected showed only 2 per cent of the area, which might support tree growth, to be barren or entirely non-productive. A large proportion of the reproduction was in the seedling stage, and many stands are being kept in this stage over an abnormally long period of time because of repeated burning. These young stands, instead of being coniferous, are predominantly aspen and birch or these two species

in a mixture with conifers. Many of the stands are understocked.

The survey data indicate some of the problems that must be solved to make these lands more productive. The change from stands of virgin conifers to the so-called inferior hardwoods presents a difficulty in utilization. The lumber industry must be persuaded to use small sized trees of so-called inferior species, because they must be utilized if wastage is to be prevented and if economical progress is to be made. Some of the areas not fully stocked should be brought to full productivity by planting. The control of fire is of paramount importance on all areas having an appreciable tree growth. Nature plants indiscriminately and as a result there are stands growing on areas and soil types not suited to them. A number of these areas should be stocked with the proper species.

Both large and small sawmills have come to regard small odd lots of raw material picked up on the open market as an important source of supply. This tendency caused by the cutting out of most of the vast area of virgin timber and consequent reduction of the timber industry to small mills and a few large mills has increased the value and marketability of woodlot products. In order to determine the existing marketing practices, a survey of wood manufacturing and buying agencies in northeastern Minnesota was made.

The marketing of these small lots of forest products has attracted timber buyers who concentrate these small purchases for the users. This has complicated the marketing of the product and somewhat lessened its value to the producer because the buyer usually tries to purchase small lots as cheaply as possible and often below the market price.

The market outlet survey indicates a willingness and tendency on the part of manufacturers to buy more woodlot products from the farmers directly. During the past season, for example, the Wood Conversion Company and the Northwest Paper Company of Cloquet began buying woodlot products directly from farmers. These two companies dealt directly with over 400 individuals and purchased \$75,000 worth of woodlot products. The products were delivered in small lots, measured and paid for on delivery. This practice made the product of the woodlot in the Cloquet region as readily salable as milk, butter, and eggs.

Creamery problems. The Experiment Station has given vital assistance to creameries and to manufacturers of butter in solving two very common defects in that product. These defects are known as "crumbly butter" and "cheesy butter." The first of these defects was found to be the result of physical conditions, particularly temperature. The second is due to micro-organisms, several of which have been isolated for further study. By knowing the cause of these defects manufacturers have been able largely to overcome the causes.

One of the most important researches conducted has been co-operative between the Divisions of Veterinary

Medicine, Biochemistry, and Dairy Husbandry. It deals with the relation of calcium intake to reproduction in cattle. Deficiencies of calcium in the diet were thought by numerous authorities to be a possible cause of contagious abortion. Carefully controlled experiments covering a period of three years give significant evidence that calcium deficiency is not a causal factor of the disease. While this discovery has not solved the problem of controlling contagious abortion it does narrow the field of study by the elimination of this factor.

One of the great farm wastes is failure properly to utilize skimmilk by-products of the dairies and creameries of which there is estimated to be five billion pounds in Minnesota. The discovery of an economic use for this by-product is of great financial importance. Basing recommendations upon trials made of the effect of feeding skimmilk back to the producing herd, the dairy division is now recommending that skimmilk be fed to milk cows as an economic unit in the dairy ration.

The above statement covers only a few of the most outstanding achievements of the Experiment Station staff. The scope of the Experiment Station work is more accurately indicated by the 270 projects, under which authorized investigations are being conducted, and by the publications of the Experiment Station for the biennium. They are as follows: 21 bulletins in the General Experiment Station Series, 18 bulletins in the Technical Series, 158 papers in the Scientific Journal Series, and 34 papers in the Miscellaneous Journal Series.

Agricultural Extension

The program of the Agricultural Extension Service deals with current problems in the agriculture of the state. The art of agriculture or the vocational skill involved in farm production no longer dominates the plan of work and the program of agricultural extension teaching. As the problems of production and distribution have grown more complex with the development of commercialized agriculture, so have the methods and plans of procedure been improved, and the emphasis shifted to meet the current economic and social needs of rural people. The following examples are given to illustrate this point.

Increasing the new income of farmers. Despite the discouragement and pessimism growing out of low farm incomes due to the serious fall in prices of farm products, there has been an increase in the demands of rural people for assistance in meeting their production, marketing, and home problems. The seriousness of the price decline may be indicated by comparing the present purchasing power of the principal Minnesota farm products in the latter part of the biennium with that of mid-year 1929. In July, 1929, the ratio of farm prices to retail prices of commodities bought by farmers was: butterfat 115; eggs, 106; hogs, 88; beef cattle, 132; wheat, 64. At that time the returns from dairying, poultry, and beef cattle represented a greater purchasing power than before the war. By June, 1931, these ratios had dropped to: butterfat, 64; eggs, 58; beef cattle, 79; and wheat, 45. This indicates the lowest

purchasing power ever recorded for butterfat and wheat. But by April, 1932, all except wheat had declined still further, the indices showing: butterfat, 58; eggs, 47; hogs, 39; beef cattle, 70, which was the lowest purchasing power ever recorded for all of these products.

In this period of economic depression, increased emphasis has been placed on reduction in costs of production, on best known methods of marketing farm products, on quality rather than quantity in production and marketing, and on the relationship of prices to economic production. This has resulted in stressing farm management factors in farming and in long time economic planning and adjustment of enterprises to present price conditions.

Emphasis upon farm prices and factors affecting price changes. The dissemination of outlook information and the history of commodity prices are features in extension teaching that have been presented with increasing effectiveness during the past five years. This type of subject-matter has brought the farmers to new viewpoints so far as knowledge and conception of prices have been concerned.

The development of co-operation among farmers. As related to extension teaching this has to do largely with the principles of organizing and developing local co-operative marketing associations. It is a type of service which emphasizes the business principles involved in effective co-operative handling of farm products, and the values to be obtained by effective types of organization, adequate financing, and good management. More recently other fields of co-operation have been stressed to secure group action in the control of noxious weeds, in the attack on grasshoppers, in the distribution of seed in connection with relief in concentrated drouth areas, in the use of large scale equipment among groups of farmers, and in presenting the principles and problems concerned with co-operative group buying of farm supplies.

Rural social problems. In the development of the home projects and the 4-H club work, more emphasis has recently been placed on enterprises of social significance rather than of economic importance. This involves the organization of community centers for the development of the forum method in discussing farm problems, suggested types of "local talent" recreation rather than dependence upon commercialized types of amusement; the development of farm women's camps for rest and recreation, and of rural boys' and girls' camps for recreation and training for rural leadership.

The social center has become a much more important rural problem with the development of good roads, the use of the automobile, and the tendency for the very small towns to grow smaller and the relatively larger towns to grow larger. This development has not only been of importance in the economic distribution of the farmer's products, but particularly has it centered attention upon social problems, peculiarly significant in this changing period. Therefore, the Minnesota Extension Service is attempting to emphasize the need of more adequate conceptions of what constitutes real values in rural culture.

National problems of importance to rural people. In this group of subjects emphasis has been placed on methods of utilizing credit systems that have been designed to aid farmers in the production and distribution of their products. Likewise tariff implications have been brought to the farmer's attention, together with the principal characteristics of foreign competition in agriculture and its effect upon prices and international trade in farm products. The elements of a national land policy may be cited as a type of national consideration that vitally concerns the farmer and his family. The adjustment of farm enterprises to changes in consumer demand represents a type of emphasis that was unknown in the extension service five years ago.

The work with young people not in school. The father and son partnership project in some of the southern counties in the state represents a type of extension activity designed to bring to the older boys some conception of the problems involved in getting started in the farming business. It emphasizes the economic returns that can be obtained by adopting modern scientific methods of production. It places definite responsibilities upon both partners as to finances, division of income, management of enterprises, and organization of the farm as a business unit. The reaching of young adult farm men and women who do not have opportunities to attend school or of participating in other extension types of instruction, represents a need requiring special methods of procedure. So far these methods are largely experimental, but they indicate promising results.

For each year of the biennium, the total number of extension contacts made in the sixty-three organized counties maintaining county extension agents has been approximately one and a half million. This figure contains duplications, but is an indication of the large number of educational contacts made with rural people. An analysis of the types of activities that contributed to the total number of contacts shows that attendance at meetings ran close to 900,000 people each year; there was an average of 39,397 farm visits made, over 96,000 official telephone calls each year, approximately 150,000 individual letters written by extension agents to farmers on farm subjects, approximately 71,000 recorded individuals attending farm home and field demonstrations, and a total of over 13,000 local junior and adult leaders assumed some definite responsibility in connection with the development of the extension program in the various counties.

In the 4-H club projects, which have continued to grow at the rate of approximately 10 per cent increase in number of enrolments in the 4-H club work each year, there has been emphasized more of the thrift program in home sewing, gardening, canning of farm products, meat preserving, and personal hygiene and health. The health program has received more emphasis the last two years than in previous years, there being coupled with each vocational project a definite procedure and plan of individual care and behavior in the interest of improved health of the club members.

In the home projects, there has been an increased interest noted in the thrift clothing program and in projects on gardening, canning, home decoration and beautification, and child development and care. In all of the farm, home, and junior projects, there have been increased demands made by rural people for participation in the extension program. Despite tax reduction, the record of the two-year period shows but one county agricultural agent and but one home demonstration agent eliminated because of lack of financial support.

The College of Agriculture, Forestry, and Home Economics

The college registration has now passed the 1,000 mark. The registration in Forestry seems to be stationary at present. Economy in the operation of United States forests and depression in the lumber industries have discouraged students for the present in this group. Home economics still holds about half of the students in the college, but a drop of approximately 10 per cent in the present year is probably a direct result of the depression in financial resources among the families from which these students come. Agriculture has again shown an increase. In all three fields of the college, the opportunities of preparation for specialized vocations and professions are attracting and serving an increasing number of students.

Some, but comparatively few, reports of unemployment because of the prevailing depression have been reported so far by graduates of this college. If this is, as seems probable, an indication of the general trend, it means that the graduates are serving in vocations and professions essential in times of depression as well as of prosperity. It also indicates that the educational preparation offered to students in the college is of sound and fundamental value.

The development of opportunities for these specializations has not required any expansion of personnel or of course work beyond that of normal change and growth. It has been met by realignment of course material and principally by a greater freedom and responsibility on the part of the student in selecting his field of specialization and in arranging a curriculum to meet his needs. The gradually changing attitude of students and faculty in this respect is highly gratifying and is an important advance in the interests of a better education. One evidence of this attitude is in the response to the new regulations giving students the option of attending classes. The attendance has not materially changed, but the student is now coming to see that attendance is an educational privilege rather than a disciplinary duty. Another improvement is seen in the closer co-operation between faculty advisers and students in solving each student's educational problems. A suggestion that necessary economies in the divisional budgets might be met by abolishing faculty adviser systems brought an earnest request from some student groups that this be avoided at all costs.

The growing interest of specialization in all fields naturally brings demands for more highly specialized

courses. This demand, if not carefully watched, may tend to increase courses and may result in the increases of small classes. Study and experiment over some years have led to various methods of meeting this problem. By combining courses with small registrations and especially by offering wider latitude and responsibility on the part of the student in pursuing a general outline of course study, many minor economies have been possible.

The student body of any college is the primary factor in its educational program. Success should be measured in the breadth of educational opportunities offered as well as in the degree of specialization available. In a true sense, faculties do not educate students but merely offer to students opportunities and aid in educating themselves. The wise promotion and encouragement of such student activities as will enable students to meet and solve the problems of community life are highly desirable. For seventeen years the students of this college have maintained a self-government system of conducting class examinations on this campus under an honor system. No one affirms that this system completely eliminates dishonesty, but overwhelming testimony was given in a recent student questionnaire vote that dishonesty under this system was far less than under the prevailing proctor systems. In addition, the response to the confidence reposed by the faculty in the students has generated a spirit of responsibility and trust which the students cherish. Certain it is that the faculty morale of this college has never been finer than at the present even under the distressing conditions of the long continued agricultural and general depression.

The general economic distress has been increasingly reflected in the financial and related problems of the student body. The special loan funds for students in this college have this year been increased by personal gifts of about one thousand dollars, and freshman students hold about the same amount in scholarship, mostly for excellence in 4-H club work, donated by newspapers and commercial organizations. But the trust fund scholarships have been considerably reduced and many students are finding the greatest difficulty in finding jobs for self-support. The optimism and grim determination of the students in continuing under the present handicap are remarkable proof of the faith which the youth of today places in education.

The College of Agriculture, Forestry, and Home Economics has made this year a significant change in its curriculum and in its regulation of student scholastic work. This change has primarily in mind the fairly large group of students who, for some reason or other, never finish their college course. A special committee of the faculty has been studying this problem for over a year. A large proportion of these students fail in college because of inability to do the college work. Such students ought to be saved at least some of the expense and time which they spend in their futile attempt to graduate. An experience of one quarter or one year gives a sufficient basis on which to predict success or failure. It is hoped that on this basis students can be made to realize the actual situation and to make a re-orientation of their educational careers, either in some other college or outside of college. In the second place, attempts will be made to assist these students in obtaining educa-

tional treatment different from that of the regular student—a treatment that will be most useful to them. Under these conditions, one or two years of college may be very profitable to them even if they do not graduate, as is usually the case. In addition, it may be possible to assist them in orienting themselves to vocations for which their ability is more suited. Students who make little or no progress in the first year and those doubtful ones who make very unsatisfactory records at the end of two years will be urged or required to drop out a year in order to test themselves in other educational programs. Since this college began this project the University has established a University Junior College to deal with the same problem for the University as a whole. The College of Agriculture, Forestry, and Home Economics will continue its program, working for the present in co-operation with the Junior College.

The college has also appointed a special committee to study and report on possible methods to assist the superior students; that is, those who in the first two years demonstrate by high records unusual ability. Because these students encounter no scholastic difficulties, they are usually overlooked. Many of them would profit by special consideration and special treatment.

The Schools of Agriculture

University Farm. The decrease in attendance during the past year was quite marked, the total enrolment for the year being 384 as compared with 600 for 1930-31. This was due almost entirely to the depression. It is expected that this situation is not permanent, and it is felt that the school will have a marked increase in enrolment when economic conditions improve or before, if costs of attendance and farm income can be more nearly equalized.

Project work. During the past two years the home project work has been reorganized in order better to co-ordinate it with the various subject-matter divisions in the school and also to raise the standards of the work. As it is now organized, a member of each subject-matter division is appointed to assist with home project work related to his division. The reports of field men on projects dealing with subjects directly related to this member's division are made to him, and when the student returns to school with his project book, this person makes the final recommendation for credit which is based on reports of the project supervisor and records submitted by the student. The student, after registering for project work with the supervisor in charge of the particular section of the state in which he lives, is sent to the proper subject-matter division for instructional material.

This past winter descriptions of the projects offered by each subject-matter division were printed in a catalog on home projects. Each student was given one of the catalogs in order that he might better understand not only project procedure but also the projects offered or suggested by the various divisions. Three credits in project work are now required of the boys for graduation. The school administration has always believed that home project work is an effective type of education and decidedly worth while to agriculture.

School curriculum. In keeping with work started two years ago a study of the organization of the curriculum has been continued. Each instructor in the school has submitted a detailed outline of the material he or she has been offering. Upon studying these outlines, considerable duplication of material was eliminated by making adjustments between the divisions concerned or by dropping certain courses. Further improvements are contemplated by dropping obsolescent or obsolete subject-matter material and by attempting to improve the presentation of subject-matter.

Visual education. Increased use is being made of sound equipment in connection with visual education. This means of presentation is very effective and material is now available for many of the courses.

Student loans. During the past year the student loan fund has been drawn upon to the limit, but the most satisfying fact is that nearly all of the loans made have been paid, and the few not yet paid are either not due or arrangements have been made for an extension of time.

Student activities. The grouping of all student activities under the student's activity budget and requiring each student to pay a student activity fee has been very satisfactory as regards not only financing but also wholesome participation in all of the organized activities by the entire student body.

Historical records. This year for the first time records were made of the graduating class by means of motion pictures which were taken just before graduation. The film is filed in the principal's office and will doubtless be interesting and valuable as the years go by.

West Central School, Morris. The year just closed at the West Central School saw the enrolment drop to 256 students for the regular school session from an enrolment of 385 for the previous year. It is interesting to note that there was a steady increase in enrolment from 1915 when 115 students were enrolled, up to the school year of 1930-31, with the exception of a slight dip in the depression years of 1920-23. Practically the entire student body are non-resident students coming from farm homes in west central Minnesota. The full force of the depression has been felt by the farmers during the past year. While the cost of attending the school is not great, yet it represents a considerable outlay when measured in terms of the amount of farm products required to provide for it.

The present economic situation featured by widespread unemployment and a surplus of professional and technical workers in many fields, raises the question of how many such workers society can absorb. This same question has been raised in the vocation of farming. While it is true that agriculture offers no large financial reward, it will always remain the vocation of millions of our citizens. There is also a drift at this time from the city toward the farm. For a long time many people will look toward the farm as a place to live in preference to the uncertain hazards of city life. Farming as a business will continue to demand efficient, capable, and well-trained farmers. Competition and narrowing margins of profit, and the hazards from new insect and disease pests make the real business of farming a place for only the most efficient. In

the past, the rank and file of our farmers have received little technical training. While accurate statistics are not available, such evidence as is at hand indicates the worth of the type of training offered in the schools of agriculture. The reasons are obvious why such training will be more necessary in the future both for agriculture and for home making. Were parents able to finance their children in school, the agricultural schools would be crowded this year.

Realizing the depleted income of the farmer and the necessity for him to reduce his expenditures to a minimum, it has been noted that the interest on the part of the student is greatly increased in courses which tend to make him more self-sufficient. During the past two years several courses in the Agricultural Engineering Division have been revised in order that they may be more helpful to the student when he returns to his home. A special interest has been manifested in the horticultural courses dealing with fruit and vegetable crops. This same statement is true for most of the courses in poultry and animal husbandry. New courses dealing with livestock management, plant diseases, and special problems in farm crops have been added to the curriculum. Most farmers find it necessary to do much of their own veterinary work. This is reflected in the interest in the courses in animal diseases being taught. The courses in civil government, rural sociology, and marketing have been revised to lay more emphasis upon those questions. In the home economics work emphasis has been placed upon home management, sewing and dressmaking, foods and cookery with the aim to make the student as capable, efficient, and independent as circumstances will permit.

For several years home project work has been carried on by students attending the West Central School during the six months they are at home while school is not in session. During the past year most of the home project work has been set up on an income producing basis with the thought in mind that the student would conduct a project which would bring him sufficient income at least partially to pay his expenses the following year in school.

That students attending the West Central School may make the maximum amount of progress, a scholarship committee of the faculty has been set up during the past two years to study each individual student from the standpoint of his scholastic progress. During the first month of each school year all freshmen are interviewed by some member of the committee. Their program of work and progress are discussed in detail. Throughout the entire year all students not doing satisfactory work are interviewed. In some cases changes are made in their program of work, and in many cases help is given in study methods. Where duplicate sections of the same course are being taught, students have been grouped according to ability. The publishing of honor rolls each month bearing the names of all students with averages above 90 has had a stimulating effect.

The lack of real money in the hands of farmers has greatly reduced the opportunity for boys and girls to

attend the agricultural school. The school is giving preference to students in doing the routine work of the farm and station and in the dining halls and dormitories during the school year, thus making it possible for many students partially to help themselves.

The depletion of Caleb Dorr scholarship funds came at a time when they were badly needed. The faculty of the West Central School, believing these scholarships to be of great worth in helping worthy students, have pledged the sum of \$210 to continue these scholarships at least partially during the coming year.

Northwest School, Crookston. The Northwest School of Agriculture is classed as a secondary school. We believe, however, that this fact does not lessen the obligation of the state to have it staffed by men and women who are well trained for their work. Particularly is this true of those members of staff who are responsible for both research and teaching. Realizing the need for a well-trained personnel and also the profound changes taking place in agriculture and rural life in recent years, it has been our policy to encourage members of staff entitled to consideration for sabbatical furlough to take leave for graduate study.

During the past two years, three members of staff have been granted the degree of master of science. T. M. McCall, horticulturist, received his degree from Iowa State College in 1930; O. M. Kiser, animal husbandman, was granted his degree by the University of Minnesota in 1931; and S. A. Anderson, instructor in agricultural engineering, was awarded his degree by the University of Illinois in 1931.

E. R. Clark, pure seed specialist, was granted leave for graduate study at the University of Minnesota during the year 1931-32. Members of the staff employed on the six months' basis, who enrolled for graduate work at the University of Minnesota for the spring quarter 1932 include Miss Cynthia Weinberger, Mr. E. L. Ocock, Miss Grace Warne, Mrs. Hildur Peterson Hollander, Miss Ruth Sheldon, and Mr. D. C. McGenty.

Superintendent A. A. Dowell was granted leave for graduate study at the University of Minnesota for the spring quarter 1930 and again for the spring quarter 1931. He will complete the requirements for the degree of doctor of philosophy during the coming year.

Due to the most severe depression experienced for over a generation, the school enrolment has been reduced from the all-time record of 353 established in 1929-30. In 1930-31 there were 221 boys and 95 girls or a total of 316 students enrolled. Comparable figures for 1931-32 were 169 boys and 76 girls, or a total of 245.

North Central School, Grand Rapids. The school has maintained its maximum enrolment of approximately fifty thus far in the severe economic depression. There has been a healthy and growing interest in the school on the part of the people in the region from which it draws its attendance.

Respectfully submitted,

W. C. COFFEY, *Dean and Director*

THE College of Science, Literature, and the Arts has carried forward the plan for advising students early in their courses. The faculty counseling group has been somewhat expanded, a new group of counselors for probation students has been organized, more adequate provision has been made for the use of tests for vocational guidance and other special purposes, and arrangements have been authorized by the faculty, such that the curriculum requirements in the Upper Division may be modified to meet the needs of the individual student.

In the interests of the students of outstanding ability and achievement the offering of honors courses with provision for independent reading under tutorial guidance has been slowly expanded, greater efforts have been made to interest the most promising students in trying for the higher honors, and closer attention given to the conduct and character of the special oral examinations of candidates for honors.

All these provisions are necessary to the proper discharge of the duties of college to society in the matter of thorough training of the most capable students for the highest and most complex functions in society. In turn the operation of these methods of instruction and the adjustments of curriculum to individual needs depend upon the success of the plans for the guidance of students in the high school, at entrance to college, and during their freshman and sophomore years.

The testing program for high schools has been gradually extended until, in the last three years, practically all seniors in all high schools of the state, both public and private, have taken the college aptitude and English placement tests. High school officials generally regard the results of these tests as of great value to them in advising their seniors. From year to year a decreasing percentage of our freshmen come from the lower ranks of the high school classes or with low college aptitude ratings. Thus there has been a slow improvement in the fitness of freshmen coming directly from Minnesota high schools, due to the inferences drawn by principals and pupils from the information distributed to the high schools immediately after the testing each year.

John B. Johnston, Dean
The College of Science, Literature, and the Arts

The College of Science, Literature, and the Arts

To the President of the University:

Sir: I submit herewith my report as dean of the College of Science, Literature, and the Arts for the years 1930-31 and 1931-32.

In my last biennial report I pointed out that the rate of growth in total enrolment had been slowing down since 1926-27 and that the gain had come to be dependent chiefly on the proportion of survival. It was said also that the greater gain in sophomore and upper years was due largely to the addition of students transferring from other institutions. Since a smaller proportion of these students do satisfactory work than of those who enter as freshmen, they constitute an added burden in the way of appraisal, advising, and guidance. This problem we shall now be able to meet in a better way by applying to transfer students the same principles which we follow in the guidance of freshmen.

The college has carried forward the plans for advising students early in their courses. The faculty counseling group has been somewhat expanded, a new group of counselors for probation students has been organized, more adequate provision has been made for the use of tests for vocational guidance and other special purposes, and arrangements have been authorized by the faculty, such that the curriculum requirements in the Upper Division may be modified to meet the needs of the individual student.

In the interests of the students of outstanding ability and achievement the offering of honors courses with provision for independent reading under tutorial guidance has been slowly expanded, greater efforts have been made to interest the most promising students in trying for the higher honors, and closer attention has been given to the conduct and character of the special oral examinations of candidates for honors. During the last two years the freshman orientation course has been conducted in such a way as to give the most promising students an introduction to the methods of independent study which are expected of candidates for honors in their upper years.

All these provisions are necessary to the proper discharge of the duties of the college in the matter of the thorough training of the most capable students for the highest and most complex functions in society. In turn the operation of these methods of instruction and the adjustments of curriculum to individual needs depend upon the success of the plans for the guidance of students in the high school, at entrance to college, and during their freshman and sophomore years.

The testing program for high schools has been gradually extended until, in the last three years, practically all seniors in all high schools of the state, both public and private, have taken the college aptitude and English place-

ment tests. High school officials generally regard the results of these tests as of great value to them in advising their seniors. From year to year a decreasing percentage of our freshmen come from the lower ranks of the high school classes or with low college aptitude ratings. Thus there has been a slow improvement in the fitness of freshmen coming directly from Minnesota high schools, due to the inferences drawn by principals and pupils from the information distributed to the high schools immediately after the testing each year. From adjacent states also we are gradually getting more information comparable to the data which we use, so that students coming from the high schools of these states may be given the same guidance at entrance as we have offered to Minnesota students.

While all of this is still far from perfect this college will profit still further from the application of available data for the guidance of students at entrance since the establishment of the Junior College of the University. So far as the work of the liberal college is concerned, the new Junior College takes over the group of students who have been specified in this college during the last four years as "non-candidates for a degree." The hypothesis on which that experiment was based was that those students whose college aptitude ratings indicated very poor prospects for successful work in the regular curriculum would find it more profitable to omit technical and tool subjects which prepare for scholarship, and spend their time on studies useful for some vocation or in preparation for the duties of citizens. It was known that the large majority of these students would stay in college less than two years, and a large part of them only one or two quarters. In addition to the plan to give this group of students instruction which might help them to discharge their duties as citizens, the colleges had the object of putting its space, its equipment, and the time of its staff at the disposal of those students who gave promise of using these facilities in higher education and in the later service to society in the more important and complex social, economic, and political problems. During the past four years, then, the group of students indicated was not allowed to elect at the beginning of their freshman year foreign languages, laboratory courses, mathematics, English constitutional history. Other subjects open to freshmen were open to them: modern world history, human geography, descriptive economics, drawing, shopwork, etc., lecture courses in zoology, botany, and geology. This whole plan has now been discontinued in this college since the new Junior College offers a wider range of work on similar lines and the type of students heretofore enrolled in this college as "non-candidates for a degree" will be enrolled in the Junior College. It is desirable in closing this experiment to report its results.

To show in the most general way and in the briefest space the grounds on which the group in question was segregated, there is reprinted here the table showing the percentage of successful students at each level of the college aptitude rating scale during the period from 1923 to 1927 inclusive before any use was made of the aptitude ratings in classifying or directing the work of students.

TABLE I. COLLEGE SUCCESS MEASURED BY COLLEGE
APTITUDE RATING. FRESHMEN ENTERING
1923 TO 1927 INCLUSIVE

(Number and Per Cent Doing Satisfactory Work)

C.A.R.	NUMBER	SATISFACTORY NUMBER	SATISFACTORY PER CENT
96-100	88	85	96.6
91- 95	125	116	92.8
86- 90	156	121	76.3
81- 85	135	98	71.9
76- 80	137	89	65.
71- 75	123	69	56.1
66- 70	131	57	43.5
61- 65	144	66	45.2
56- 60	144	57	39.6
51- 55	150	45	30.
46- 50	141	34	24.1
41- 45	129	20	15.5
36- 40	137	19	13.7
31- 35	116	13	11.2
26- 30	90	6	6.4
21- 25	76	1	1.3
16- 20	85	2	2.3
11- 15	47	..	..
6- 10	44	..	..
1- 5	14	..	..
2212		898	

The essential fact shown in this table is that whereas 96.6 per cent of the students with ratings between 96 and 100 did satisfactory work in college, there is a steady decline in the percentage lower in the scale until at 26 to 30 in the scale only 6.4 per cent did satisfactory work and at 1 to 15 in the scale none did satisfactory work.

At the end of the first year (1928-29) of this segregation of the low aptitude students it was observed that they had secured on the average higher grades than the students with corresponding ratings had secured in previous years. On examining the scholarship record of the low rating students subject by subject in the year 1926-27, it was evident that these students secured higher grades in economics, history, and lecture courses in science than they did in languages or laboratory courses in science. This, together with later examination of the records of the low aptitude students in various subjects, seems to show that such students secure better grades in discursive subjects such as economics, history, and general survey lectures in sciences than they do in the close, detailed study required in languages or in laboratory courses. Therefore, the limitation of these students to certain subjects enabled them to secure higher scholarship standings.

The group of students who were not accepted at entrance as candidates for a degree was defined somewhat differently in the first two years and the last two years

of the period. In 1928-29 and 1929-30 those were assigned to this group who (a) had college aptitude ratings of 35 or lower and (b) those whose ratings showed a wide discrepancy between the high school rank and the aptitude test rank, the discrepancy being 30 percentile points or more and the high school rank being not above 60. In 1930-31 and 1931-32 the subgroup (a) was limited by the college aptitude rating of 25 or lower and subgroup (b) was continued. In the latter two years a special group (c) was recognized whose college aptitude ratings ranged from 26 to 45 inclusive. These students were advised to elect their studies from the limited list open to the non-degree group. The registration officers, however, were expected to arrange whatever study program seemed advisable in the case of any individual. Since there was no uniformity in the election of studies among this (c) group, the scholarship records are not susceptible of statistical treatment. It may be assumed that the advice given these students was helpful and worth while but they need not be considered further in connection with the experiment now being described.

It should be said that the identity of the low aptitude students was known to only a few administrative officers and advisers. The teachers in whose classes they were enrolled had no means of knowing who they were.

The discrepancy cases (b) whose college aptitude ratings were above 35 were small in number and should be separated from the rest at the start. There were 22 such cases of whom 5, or 27 per cent, secured an average of C during their college work. In several earlier years of observation students whose ratings showed the discrepancy described above fell very low in scholarship with a low percentage of exceptions. Under the conditions of this experiment a much larger percentage of such students secured the scholarship standing required for promotion (average of C). These 22 students have been removed from the tabulations following.

During the four years there were 996 students assigned to the non-degree group whose records will be studied.

TABLE II. GENERAL RECORD OF LOW APTITUDE GROUP

They were distributed over the four years as follows: 274, 296, 208, and 218. The larger numbers in the first two years are explained by the college aptitude ratings used for classification as stated above. The first year group has had four years of college record, the last group only one year.

The general history of the whole group is outlined in Table II above.

The number of those who have transferred to each of the professional schools is shown by years and quarters in Table III.

TABLE III. IN RESIDENCE IN PROFESSIONAL SCHOOLS JUNE, 1932

	1928-29	1929-30	1930-31	1931-32	TOTAL
Education	8	11	1	1	21
Medicine	4	1	..	..	5
Dentistry	3	..	..	..	3
Business	7	9	1	..	17
Law	1	..	..	..	1
Pharmacy	2	9	2	..	13
Agriculture	1	4	4	..	9
Engineering	1	1	..	..	2
Mines .....	..	1	1	..	2
	27	36	9	1	73

Of the students transferred to professional schools only two, both entering in 1928-29, have been dropped from those schools for low scholarship. Of the 73 who continued in residence in professional schools four received degrees in June, 1932, one in Education, two in Business, and one in Dental Hygiene.

Table IV shows the distribution of the students who have continued in residence in this college to June, 1932.

TABLE IV. IN RESIDENCE TO JUNE, 1932

	1928-29	1929-30	1930-31	1931-32
Lower Division	9	56	62	109
Upper Division	2	3	..	..
Junior College .....	..	..	..	49
Dropped, low scholarship .....	..	..	..	13
	11	59	62	171

On the basis of the records at the close of the year 1931-32, 13 freshmen were dropped and 49 were notified that they could not return to this college but might enter the University Junior College. Of the 62 sophomores, 2 were found to be ready for promotion to the Upper Division and 5 to professional schools.

The 6 students who have taken degrees have shown ratings and honor point averages as follows:

TABLE V. DEGREE STUDENTS—1928-29 GROUP

C. A. R.	H. S.	C. A. T.	HONOR POINT RATIO		DEGREE FROM S. L. & A. Prof. School
			1	2	
1	12	13	11	.89	Business
2	35	28	42	1.15	Business
3	21	35	7	.48	Education
4	9	13	5	.03	Dent. Hygienist
5	8	3	13	1.91	..
6	33	60	6	1.76	S. L. & A.

Student number 2 stands at the maximum C. A. R. for the low aptitude group. Student number 6 might have been given regular standing on the ground of her high school rank of 60. Although these two were on the border line, the ratings of the other four gave no hint of their potential ability. The large majority of those standing on the border line have fallen below a satisfactory scholarship record. There were eight students in the 1928-29 group whose C. A. R. was 35.

The degree of success of these students in the training offered by present colleges and schools is evident from the figures in the above tables. Of the total number 996, 236, or 23.7 per cent, have been dropped from college during or at the close of the first three quarters of residence. The proportion of all freshmen dropped over a period of years has been 8 or 9 per cent. An additional 386 did not return to college after varying periods of residence. The figures for those who were dropped and for those who did not return represent four years, three years, two years, and one year respectively for the four classes concerned. Of the 274 who entered in 1928-29, 80 were dropped and 156 did not return, or 86 per cent of the group. Of the same year group 2 (0.73 per cent) were graduated from this college and 4 (1.46 per cent) from professional schools in June, 1932. In his study of "Student Survival" (1925) Mr. West found that of those entering this college as freshmen 6.7 per cent graduated in four years from this college and 17 per cent either graduated from professional schools or made four years progress in combined courses. Since none of the students in question are enrolled in combined courses, it is correct to say that 2.19 per cent of the 1928-29 group have graduated in four years as compared with 23.7 per cent of all freshmen enrolled in September, 1920.

Of the 239 from all four colleges who have remained in this college until June, 1932, 59 have been in residence for three years and 11 for four years, of whom 5 have been promoted to the Upper Division and 2 of the 5 have graduated. Of the 62 who have been in residence two years 2 are now eligible for promotion to the Upper Division and 5 to professional schools. This means that out of 778 from the three years, 132 have remained in this college long enough to complete the Lower Division work; of whom 12, or 1.34 per cent, have made normal progress. Table III shows that from the same three-year groups 75 have transferred to professional schools, of whom 2 have been dropped and 4 have taken degrees. There were 69 in residence in professional schools in June, 1932, a large part of whom will presumably reach graduation in those schools.

It is necessary now to call attention to the fact that of the 996 students who have been treated alike administratively, 176 were assigned to this group on the basis of their ranks in college aptitude tests alone. These were persons whose high school ranks were not reported to us. It is desirable to analyze the records of these 176 students and to see how they have affected the whole group.

Satisfactory scholarship (average of C) is shown by 25 out of the 176, or 14.2 per cent. Of the 820 whose clas-

sification was based on the complete C. A. R. 9.39 per cent secured an average of C in all work carried. The correlation between C. A. R. and scholarship of these students is shown in Table VI. The surprising number of students who secured an average of C or higher as compared with the conditions in earlier years as shown in Table I is due to the higher grades secured in the subjects open to these students as explained above. Table VI includes those discrepancy cases for the years 1930-31 and 1931-32 whose C. A. R. ranges from 26 to 35 inclusive. When these are separated it is found that 13.5 per cent of them secured an average of C in their work, while of those who remain, in the table 8.88 per cent, attained this scholarship standing. Of those in all four years whose C. A. R. was not above 25, 7.64 per cent gained the C average. Of those entered in 1928-29 and 1929-30 whose C. A. R. ranged from 26 to 35, excluding the discrepancy cases, 13.5 per cent secured the C average; that is, just the same percentage as in the discrepancy cases from the years 1930-31 and 1931-32.

From the examination of these various groupings it may be inferred that if all students whose C. A. R. was not above 35 had been assigned to the group of non-candidates for degrees, the percentage of satisfactory scholarship would have fallen between 8 and 10 per cent. This favorable record is fully explained in my opinion by the fact that students of this type secure higher grades in the subjects which were open to these students than in those required subjects which were closed to them.

TABLE VI. CORRELATION BETWEEN C. A. R. AND SCHOLARSHIP OF 819 NON-CANDIDATES FOR DEGREE

C. A. R.	F-	F+	D-	D+	C-	C+	B-	B+	A
-1.00	-.50	.0	.50	1.00	1.50	2.00	2.50	3.00	
-	.51	-.01	.49	.99	1.49	1.99	2.49	2.99	
31-35	9	12	44	36	12	4	1	..	..
26-30	16	26	44	24	15	1	..	..	..
21-25	37	36	42	44	13	2	..	..	..
16-20	19	34	51	28	8	2	1	..	..
11-15	30	26	36	22	7	2	..	..	..
6-10	17	25	27	13	5	2	..	..	..
1-5	21	13	9	2	..	1	1	..	..
Total	149	172	253	169	60	14	3	..	..
									819

Of the 69 students in residence in professional schools in June, 1932, 18 were assigned to the non-degree group on the basis of test rank alone. Eight of these had an honor point ratio above 1.00 in this college and two others in the professional school.

None of the students who have taken degrees were classified on the basis of tests alone.

It is evident that the test ranks alone, even when supported by statements from principals or other evidence are not sufficiently valid for such classification. No stu-

dents are being assigned to the new Junior College on the basis of test ranks alone. However, requests made of the authorities in adjacent states are securing for us in an increasing number of cases the information as to ranks in high school classes, so that we shall have from now on the necessary basis for classification for a larger proportion of entering freshmen.

The records made by the students who have been classified at entrance as non-candidates for a degree seem to me to have justified the advice and classification at entrance and the guidance in college which has been given by faculty counselors. Those individuals who have demonstrated ability have been promptly given opportunity to follow their chosen curricula. Many have been helped by the How To Study course and by counselors. Those who have not shown ability for college work have withdrawn or have been dropped, in most cases without undertaking the more detailed or technical studies or being enrolled in small classes.

From this experience of four years some inferences can be drawn with regard to the prospects for students of the type here studied, going on to graduation in this college or the professional schools. Of the first year group 2 have graduated in this college, from the second year group 3 have been promoted to the Upper Division and from the third group 2 are ready for promotion to the Upper Division. If the fourth year group should do equally well there may be 10 students out of the total 996 to enter the Upper Division and probably to graduate. This is 1 per cent of the entrants.

At the same time 75 students have entered the professional schools and 5 are now ready to enter; 2 have been dropped, 4 have graduated, and 27 show good records at present. If 5 others enter professional schools from the fourth year group there will be 74, of whom 40 or 50 may graduate. It is noticeable that students frequently make distinctly better records in professional schools than they do in this college. If a maximum of 50 may be expected to graduate from professional schools in a normal period, that would be 5 per cent of the total entrants. This does not take into account possible deferred graduations such as Mr. West studied for the freshman class of 1920.

Only a small percentage of the type of students profit by the advanced work offered in the Upper Division of this college and the professional schools. Only four students have entered the Medical School and only one the Law School and a majority at present do not have satisfactory records in the other schools. In looking forward to the operation of the Junior College we should be justified in encouraging the very large majority of such students to be satisfied with the opportunities offered by that unit.

Respectfully submitted,

JOHN B. JOHNSTON, Dean

Professional and Technical Schools

The Law School

In a perfectly organized society there should be no other measure for man's enjoyment than man's productive capacity. So long as human desires are unsatisfied, there cannot be overproduction. There may be overproduction of one commodity, but that should mean an underproduction of another commodity and the one should correct the other. Production should continue to increase until men prefer more leisure rather than more things. Until that time comes there can be no overproduction.

The attention of the universities needs to be focused upon the social sciences. The readjustments necessitated by the advances in the physical sciences and the organization of industry must be studied. Modifications of institutions and laws must follow.

There never was a greater need for leaders of public opinion. It is indeed doubtful how democracy can operate in our present economic world. The problems of economic relations, both national and international, are beyond the understanding of most people. Voters are adhering to tenets that are probably harmful to their own interests.

The times demand men who are trained to analyze complicated problems and to present their solutions to the people. In simpler times the lawyers were pre-eminent in this work, and the people accepted their leadership. But they, too, are becoming specialists. The fields of study are so vast that few can cultivate them. The importance of leadership is greater than ever, and the leaders fitted for the task are fewer. But leadership must be provided. Is it too much to hope that a bar educated in proportion to the needs of the times may reassume its former functions?

Everett Fraser, Dean
The Law School

The Law School

To the President of the University:

Sir: I have the honor to submit the following report on the work of the Law School for the biennium 1930-32.

In my last report I reviewed for the preceding decade important developments in legal education in the United States, the progress of the Law School, and its plans for a four-year course. The last two years have been devoted to carrying on the usual activities of the school and to furtherance of the plans for future development.

The social sciences. Law is one of the social sciences for which recent events raise questions of great importance. It is probable that changes of the utmost significance in our institutions and law are impending.

During the last fifty years or more attention has been focused on the physical sciences, and with wonderful results. The discoveries and inventions of the scientists and their application to industry have proceeded at an accelerating rate. They have put into men's hands new tools, engendering great power, and have made potentially available satisfactions in living undreamed of in the past.

The organization of industry has still further augmented the potential satisfactions of life. The concept of the corporation was a contribution of the law to the process. It enabled great numbers of persons to unite their resources in large units for productive purposes. This device made mass production possible.

Theoretically, every discovery and invention that provides new satisfactions, and every tool for production, whether in the form of labor saving machinery or of organization of industry, that lessens the human energy required in production, should make more satisfactions available and add to the enjoyment of everyone.

But these profound changes in the organization of industry have produced problems that have received little attention. Along with mass production have come specialization and an interdependent economy.

Our economy is drastically changed. We used to have a rural self-sufficient economy. Industry was in small units, closely related geographically. Tools were simple and made on the farms or in neighboring shops. Farmers and workmen were trained for many types of work. There was comparatively little dependence upon persons at a distance. Disturbance in the economic structure affected fewer people and in smaller measure because dependence was slight.

Now all this has changed. Our population has become preponderantly urban. The farmer has become a specialist with the others. He no longer makes his own simple ploughs and harrows with the aid of the local mechanic. The local mechanics have disappeared. They are in the cities manufacturing the complicated machinery that is used on the farms. Each has become a specialist in his job, and dependent upon the demand for the product of his labor for his

livelihood. A disturbance of the economic system that affected a local economy but slightly becomes a calamity in an economy interdependent upon a national and even an international scale. The question of economic equilibrium has become of the utmost importance to our welfare.

Another feature of the change is important. Under the old economy, when industry was in small units, the power of any individual to affect the welfare of his fellows was slight. Under the present organization of industry it is enormous. Our industrial leaders control not only their own wealth but also the wealth of thousands or millions of people.

If this analysis is correct, the change in our institutions is bound to take the direction of greater restraints upon individualism. In a large measure the development of our institutions has been a process of growing restraints. In the political field despotisms changed into constitutional monarchies or presidencies. The growth of civilization has seen increasing restraints upon individual action. When people saw that individual acts were inimical to their welfare, the acts were restrained. Individual powers that were harmless in a simple independent economy may be unendurable in a complicated interdependent economy.

The form that changes will take cannot be foretold. That there will be changes in the distributive processes is probable. In a perfectly organized society there should be no other measure for man's enjoyment than man's productive capacity. So long as human desires are unsatisfied, there cannot be overproduction. There may be overproduction of one commodity, but that should mean an underproduction of another commodity, and the one should correct the other. Production should continue to increase until men prefer more leisure rather than more things. Until that time comes there can be no overproduction. It is the distributive processes that demand attention.

The attention of the universities needs to be focused upon the social sciences. The readjustments necessitated by the advances in the physical sciences and the organization of industry must be studied. Modifications of institutions and laws must follow.

There was never a greater need for leaders of public opinion. It is indeed doubtful how democracy can operate in our present economic world. The problems of economic relations, both national and international, are beyond the understanding of most people. Voters are adhering to tenets that are probably harmful to their own interests.

The times demand men who are trained to analyze complicated problems and to present their solutions to the people. In simpler times the lawyers were pre-eminent in this work, and the people accepted their leadership. But they, too, are becoming specialists. The fields of study are so vast that few can cultivate them. The importance of

leadership is greater than ever, and the leaders fitted for the task are fewer. But leadership must be provided. Is it too much to hope that a bar educated in proportion to the needs of the times may reassume its former functions?

Attitude of the bar. The attitude of courts and lawyers towards legal reform and legal education offers many reasons for encouragement. An awakened sense of the responsibilities of the profession to the public is manifest. Incorporation of the bar has been accomplished in several jurisdictions. The acts of incorporation make all lawyers in the jurisdiction members of the corporation, confer large powers of self-government, and charge the corporation with important duties. In other jurisdictions voluntary bar associations are growing in membership and in activities. Judicial councils for improving procedural law have been organized in many states. The American Law Institute and the Commissioners on Uniform State Laws are making important contributions to the simplification and clarification of the law. The National Crime Commission has thrown light on the deficiencies of criminal law administration. Various studies are being made of the working of our rules of substantive and procedural law. Trial judges are taking a more active part in the tasks of the profession, and are organizing for the discussion of the problems of their office. There is much to be done, but the profession is going about it with a will that augurs well for the future.

Minnesota stands well in these respects. The State Bar Association, reorganized in 1926, is now a model among voluntary associations in the United States. Its membership has grown from 915 in 1926 to 1,608 in 1932. The governing boards and committees of the state and local associations are actively interested in many movements for the public good. Largely through the activities of the state association the constitutional double liability of shareholders in trading corporations was repealed, and it is now engaged in revising the corporation laws of the state. These changes will promote incorporation in the state, instead of in other states, with benefit to the state revenues. The State Bar Association is also co-operating with the American Law Institute in publishing the Restatement of Contracts and Conflict of Laws with Minnesota annotations. The associations, both state and local, are making an earnest effort to improve the ethical practices of the profession.

To the new spirit of the bar, the law schools are contributing through their graduates and the activities of their faculties. The education of the lawyer is the foundation of all progress in the law. No institution can be devised that will work well in the hands of an ignorant, narrow-minded, and self-centered profession. On the other hand, an educated, broad-minded, unselfish profession can do a great deal for the public good, although institutions and laws are imperfect. The idea of a government of laws and not of men has its values, but it has also its defects. It aims at the impossible to the neglect of the essential. No system of laws will work well unless it is administered by judges and lawyers trained for service and motivated by the public welfare.

Bar admission requirements. Several jurisdictions

have increased their requirements for admission to the bar. Seventeen states now require two years of college work either before beginning the study of law or before taking the bar examinations. Several other states have increased their requirements in a smaller measure. The Supreme Court of Kansas, first to require two years of college work, continues in the van by raising its standard to three years of college work. The progress of the last few years is encouraging, and the movement is gaining momentum.

The agencies for conducting bar examinations are improving. Too often in the past bar examinations have been perfunctory. They were conducted by judges or boards with little interest in their task. Questions were framed to measure the candidates' fund of information rather than to test their analytic powers. Often they called for a knowledge of statutes which might be had by "cramming." These examinations worked to the disadvantage of the type of training given in the university law schools. The present tendency is to establish examining boards of qualified practitioners and to impress them with the seriousness of their responsibilities. Examinations are better adapted to test the qualifications of the candidates, although something remains to be desired in this respect. The boards are showing greater discrimination in passing upon the candidates. For example, in Minnesota in 1923 out of 175 candidates 171 were admitted; but in recent examinations the successful candidates have been only about 60 per cent of the total.

There are now examining boards in forty-five states. They have formed a national organization which holds an annual conference in connection with the meeting of the American Bar Association, for discussion of their problems. They have also begun to publish a periodical for the same purpose, and to enlist the assistance of lawyers and law teachers in their work. This movement has great potentialities for improving the quality of the bar. It is one of the many present manifestations of awakened interest on the part of courts and lawyers in the welfare of their profession and in their responsibilities to the public.

The Supreme Court of Minnesota has taken a progressive attitude in this matter. It has established sound standards, and created a capable board to administer them. The laxity of the past cannot be undone but the present administration is a guarantee for the future.

Law School registration. A turn has come in the tide of law school attendance in the United States. From an all-time maximum registration of approximately 49,000 in 1928-29, the attendance had fallen to approximately 41,000 in 1930-31. The total attendance has been falling in the state of Minnesota for several years. The all-time maximum of 1,350 was attained here in 1923-24. It had decreased to 962 in 1929-30, and fell to 723 in 1931-32. The number attending this Law School was 277 in 1923-24 and was the same in 1929-30, but it fell to 249 in 1931-32. Expressed in another way, the attendance in all other law schools in the state decreased from 1,073 in 1923-24

to 474 in 1931-32, and the attendance in this school decreased from 277 to 249 in the same period.

There are still more students studying law in the United States and in this state than can find a living in the profession. Overcrowding of the bar is not a new phenomenon. It has existed for a long time, but it has been growing worse. The profession is attractive to many persons imbued with the highest ideals. In the past, and still in many jurisdictions, the fact that standards for admission were less exacting than for other professions has induced some, unfitted in training and in character for their responsibilities, to seek entrance. Even when this defect is remedied, more will study law than can find room in the profession. Legal business is not increasing rapidly. The organization of industry and business in large units tends to lessen the legal services required.

What is the duty of a state university law school under these circumstances? We believe that overcrowding is harmful to the morale and to the ethics of the profession, and that it is injurious to the public. The struggle for existence becomes severe, and induces practices that can only be condemned. It is significant that one half of all the disbarments in Minnesota occurred in a recent five-year period. Most of them were for using clients' money, and the money was generally taken under stress of circumstances. The practice of "ambulance chasing" grows increasingly common. There is necessity of making business, or of anticipating others in securing it. Lawyers with scruples against the practice are forced to engage in it in self-preservation. The unseemly scramble lowers the tone of the profession. Lawyers who indulge in these practices lose their own self-respect, undermine public confidence in their profession, and bring disrepute upon the administration of the law.

Lawyers are officers of the courts. They are sworn to promote justice. They have a great public trust. It is difficult to discharge their duties when crowded and harassed by want. That many are true to their trust is under these circumstances a tribute to their character. But for the weaker the test is too severe, and they fail in their responsibilities. The admission of fewer candidates would almost certainly make for a better bar.

On the other hand, the study of law is an excellent mental discipline and a good training for many occupations. A state university should afford opportunity for all who desire this training to secure it. If they show the necessary attainments in their studies, they are entitled to the recognition of a degree. But it does not follow, because they secure a law school degree, that they are entitled to admission to the bar. It is at least arguable that admission to the bar should be restricted to such numbers as will not endanger the welfare of the profession and hinder its service to the public. Under this system all would be entitled to examination, but only those who show the highest attainments in character and training would be admitted. The others would use their training in other occupations, rather than in the sacred precincts of the halls of justice.

Whatever may be thought of this suggestion, it seems

to us that a state university should not deny the opportunity of training in law to all who are qualified. It should of course, by way of vocational guidance, advise students of the difficulties and hardships ahead of them, but this done it should leave them free to make their own choice. The task of preventing overcrowding of the bar must fall upon the admitting agencies. In view of the different functions and responsibilities of these agencies, they may well adopt different standards for admission than are attained by the law schools for their degrees. However, it should be said that up to the present the university law schools as a general rule have maintained higher standards than the admitting agencies.

The student body. The most important factor in the success of a law school is the quality of its students. The students coming to the Law School are constantly improving in this respect. The proportion of brilliant students in the classes tends to increase. The work of the students on the editorial board of the *Minnesota Law Review* compares favorably with that to be found anywhere. The student scholarship, commended in my last report, continues high. The graduates continue to be singularly successful in bar examinations. In the Minnesota examinations of June, 1931, 91 per cent were successful as compared with 44 per cent of all other candidates. They are equally successful in the examinations in other jurisdictions. Comparatively few Minnesota students are going outside the state for the study of law.

Relation of college preparation to scholarship. In the last year a careful study was made by Professor William L. Eagleton of the University of Chicago Law School of the relative success in law studies of students with three years and of students with four years of college preparation. The results are published in the *Illinois Law Review* of February, 1932. Professor Eagleton concludes the article by saying:

In almost every classification of students used in this study, each group with only three years of academic training has excelled the similar four-year group in law school records. It would appear safe to draw the conclusion that, as far as law school grades are concerned, the last year at college did not result in a net advantage for those who took four years of college before entering law school.

Two years ago, to aid in determining whether we should increase the pre-law period of study or the law period our faculty made a study of the relative success of students in our own school with two years and of students with three or four years of college work. It appeared that the students with two years preparation did quite as well in their law studies as those with the longer preparation. The quality of the college work, as indicated by student grades, has a close relation to success in law studies, but the quantity of college work appears to bear no relation to it. The importance of the former probably lies in the fact that it indicates the quality of the student.

Those studies tend to support our decision, discussed in my last report, to increase the period of law school study rather than the period of college study. It appears that the student can do his law work as well at the earlier

stage, and there can be no doubt that he can make more intelligent use of his time after he has acquired a considerable part of his professional training than he could before he has entered upon it. The justification of college work is not that it makes a better law student but that it makes a better lawyer. But the same amount of time devoted to specific subjects that will definitely enrich his professional life should make him a still better lawyer.

Faculty. It is a great satisfaction that we have had no losses from our faculty during the biennium. Maynard E. Pirsig, B.A., LL.B., was appointed associate professor, and William L. Prosser, B.A., LL.B., assistant professor, in 1930-31. Both are graduates of the school, and showed outstanding scholarship. The promise of their scholastic careers has been amply fulfilled in their success as instructors. Professor Pirsig was given leave of absence for two years to prepare the course on Comparative Administration of Law which will be part of the four-year course. He spent 1931-32 at Harvard Law School, and will spend the next year in England and on the continent of Europe in preparation for this work. Walter W. Finke, B.A., LL.B., succeeded Mr. Pirsig as counsel for the Legal Aid Society, and was appointed instructor in practice, with supervision of the students' clinic in the Legal Aid Society offices.

Law library. The law library was increased during the biennium by 8,026 volumes. The total is now 62,620. The cost of maintaining a law library constantly increases. Continuations are more numerous and together with binding absorb a large proportion of the annual appropriation. The law librarian has done remarkably well with the limited money at his disposal, and due to his energy and business acumen our library ranks comparatively well. But larger appropriations for this purpose are needed.

School activities. The faculty is small and its time is primarily devoted to teaching and to the interests of the students. Yet it has made other contributions in several ways. Professor Wilbur H. Cherry has been a member of the Board of Governors of the State Bar Association and actively engaged in the work of the Committee on Jurisprudence and Law Reform. Professor Ralph H. Dwan is editor-in-chief, Assistant Professor William L. Prosser, associate editor supervising student work, and Professor James Paige, business manager of the *Minnesota Law Review*. Professor Harvey S. Hoshour has been preparing for the State Bar Association the Minnesota Annotations for the American Law Institute's Restatement of Contracts, and revising the corporation laws of the state. Professor Henry L. McClintock is preparing for the State Bar Association Minnesota Annotations on

the American Law Institute's Restatement of Conflict of Laws. Professor Henry Rottschaefer is a member of the Governor's Tax Commission. He has also recently edited a casebook on constitutional law. Dean Everett Fraser has been an adviser to the American Law Institute on the Restatements of Property and Trusts. He has also recently published a casebook on the law of property.

The *Minnesota Law Review* provides excellent training for students in the school, and postgraduate instruction for the lawyers of the state. It brings to the attention of lawyers the latest developments of the law in the several fields. By contract with the State Bar Association, it was made the official journal of the association, and is sent to all association members. In this way it reaches most of the practitioners in the state. Its circulation last year was 1,981. The *Review* has now completed its seventeenth volume. It is self-supporting, has never had a deficit, and ended the biennium with some surplus.

Scholarships. Grateful acknowledgment is made of the gifts of scholarships. In each year of the biennium about twenty scholarships of \$150 each were contributed by law firms, alumni, and faculty of the Law School. These scholarships are awarded to high ranking students who are editors on the *Minnesota Law Review* and who need the scholarships to enable them to give their time to this work. These gifts are very helpful to the school. They stimulate scholarship throughout the school, enable the recipients to get a better training, and improve the quality of the *Review*.

The four-year law course. Admission to the four-year law course began with the entering class of 1931-32. One quarter of the class registered for this course. The indications are that a much larger proportion of the next entering class will be registrants for the four-year curriculum.

As indicated when the matter was presented to the Board of Regents, the organization of the four-year course will require additional teachers. For the present at least the first two weeks' work will be the same as in the past. But the remaining two years will be made up of former third year work and the new subjects which are to be added to the curriculum. The school has at present a restricted curriculum and a small faculty even for a three-year course. The four-year course calls for new subjects described in my last report, and sufficient additions to the faculty to provide the instruction. Three additional teachers will be needed in 1934-35.

Respectfully submitted,

EVERETT FRASER, Dean

The Medical School

THERE is a growing sentiment that we should diminish rather than increase the number of students of medicine. Practically all the faculty feel that the number is too large for the best teaching. There is a growing conviction, also, both in the school and among the alumni, to the effect that too many physicians are being graduated. I have the impression that our graduates are finding it progressively harder to find a suitable location and to earn a living. An over-crowded profession means a degenerating profession: this is particularly true of medicine, where the opportunities of entering related professions are almost non-existent. The temptations ordinarily not listened to become, for some people, overwhelming in the presence of adversity. It is not good public policy to educate more doctors than the country requires. This question will doubtless receive faculty consideration in the near future.

Richard E. Scammon, Dean
Medical Sciences

The Medical School

To the President of the University:

Sir: We have the honor to submit the report of the Medical School for the biennium, 1930-32.

Student body. The number of medical students varies little from year to year. We can always more than fill our limited classes from the large number of applicants.

There is growing sentiment that we should diminish rather than increase the number of students. Practically all the faculty feel that the number is too large for the best teaching. There is a growing conviction also, both in the school and among the alumni, to the effect that too many physicians are being graduated. I have the impression that our graduates are finding it progressively harder to find a suitable location and to earn a living. An over-crowded profession means a degenerating profession: this is particularly true in medicine, where the opportunities of entering related professions are almost non-existent. The temptations ordinarily not listened to become, for some people, overwhelming in the presence of adversity. It is not good public policy to educate more doctors than the country requires. This question will doubtless receive faculty consideration in the near future.

Survey of the Medical School. During the past year a comprehensive study has been made of the costs and activities of the Medical School. The results of this survey are too extreme to be summarized here though general striking points may be mentioned. The amount of medical school teaching seems to have increased over three fourths during the last decade although the gross cost has increased approximately 38 per cent. The proportion of our budget devoted to clinical instruction is increasing. About one third of the teaching in the school is to other than medical students and this proportion seems to be increasing.

Although no exact comparison is possible, it appears that the cost of education per medical student (service activities of the hospital omitted) has shown no great change since Dr. Richard O. Beard's study of this subject eighteen years ago. And although the number of medical graduates has increased, the proportion locating in Minnesota after licensure remains about constant at two thirds of all graduates. This proportion has remained constant since the Medical School was established. While our graduates who leave the state go to all parts of the United States and to foreign countries, by far the larger number concentrate in two places, California and the metropolitan district of New York. The proportion of our medical students who are citizens is steadily rising.

Faculty. As noted in the *President's Report for 1928-30*, Dr. Frederick C. Schlutz resigned as professor and head of Pediatrics at the close of the school year of 1930. This place was filled as of October 1, 1930, by the appointment of Dr. Irvine McQuarrie, previously associate professor at the University of Rochester. This appointment is universally accepted as a very happy one.

Dr. Richard E. Scammon resigned as professor of anatomy at the close of the Summer Session, 1930, to accept the deanship of the Division of Biological Sciences at the University of Chicago. At the end of the school year of 1930-31 he returned to Minnesota as dean of medical sciences. He shares with Dean Lyon the administration of the Medical School, having charge of matters of finance and policy.

Dr. Edward A. Boyden, previously professor of anatomy at the University of Alabama, was appointed to Dr. Scammon's professorship in the Department of Anatomy. With the transfer of Professor Hal Downey from Zoology to Anatomy, our Department of Anatomy now has five full professors and is as strong as any in the country.

An important addition to the Department of Medicine is Dr. Hobart A. Reimann as full-time associate professor. Previously for three years he was associate professor of medicine in the Pekin Union Medical College. He is interested in the bacteriological side of disease.

Dr. Hilding Berglund of the Department of Medicine was granted a sabbatical furlough for the year 1931-32.

On the invitation of the Tohoku Imperial University, Dr. J. F. McClendon of the Department of Physiological Chemistry is spending a year at Sendai, Japan, as visiting professor. Funds for this purpose were furnished by the Rockefeller Foundation, through the Japanese authorities, and Dr. McClendon was enabled to take his family with him. During the summer months he will work at the Marine Biological Station of Tohoku University located at Asamushi. Professor McClendon's duties include both research and advanced teaching. He will work chiefly on iodine and goiter problems. He will return in the spring of 1933 via Switzerland, to interview authorities and look into the goiter question in that country.

In the fall of 1930, Miss Marion Vannier resigned as director of the School of Nursing and Miss Katharine J. Densford, assistant dean of the Illinois Training School in Chicago, was appointed.

Directorship of the University Hospital. At the close of the academic year of 1931-32, Mr. Paul Fesler resigned as superintendent of the Minnesota General Hospital to accept the superintendency of the Wesley Memorial Hospital in Chicago. Mr. Fesler's five years with the University were noteworthy with accomplishment. The hospital was greatly expanded under his direction and his tireless efforts led to the establishment of most amicable relations with the physicians of the state. During the period of his appointment he received the highest honor in the field of hospital administration—the presidency of the American Hospital Association.

On July 1, 1932, Dr. Halbert L. Dunn, a graduate and former teacher of this institution, and at the time director of statistics at the Mayo Clinic and associate pro-

fessor on the Mayo Foundation, was appointed director of hospitals and professor of medical statistics.

Kidney Symposium. Following the plan of the Physiology Symposium of the summer of 1929 a second symposium, on kidney problems, scientific and clinical, was conducted in July, 1930. The program was arranged by a committee under Dr. Hilding Berglund's chairmanship. Foreign participants were Dr. F. Volard of Frankfort, Dr. Paul Rehberg of Copenhagen, and Dr. I. Snapper of Amsterdam. Several scientists from American universities as well as local faculty members also contributed. The attendance was good. The collected results are to be published as a monograph.

Increase in Medical School space. During the year a considerable addition of building space has been made available through the opening of the new Medical Sciences Building. This addition supplies new quarters for medical and nursing administration, additional space for the Division of Biochemistry, better quarters for the officers of the United States Medical and Dental Corps, two student study rooms, additional quarters for animals, and some small but much needed rooms for the Departments of Anatomy and Pathology.

The rearrangement of space has permitted the setting aside of two large study rooms for medical students. It is hoped that during this year it may be possible to secure from outside sources aid properly to equip this space. Quiet well-kept quarters in which the medical student may read and study during his unoccupied hours on the campus form one of our important needs. The reading and reflection that should accompany active laboratory and clinical work can be greatly stimulated by this provision.

Comprehensive examinations. The plan of comprehensive examinations adopted in 1929-30 went into full effect in 1930-31. The wisdom of putting all examinations under one chief examiner is amply demonstrated, and Dr. A. T. Rasmussen has shown his extraordinary capacity to carry forward such an enterprise. The faculty has yet to develop the technic for the best type of papers, but the experiment is promising.

Summer junior program abandoned. For some years a division of the junior class has been in residence in summer and graduated in December of the year following. This plan has been discontinued. Hereafter all juniors will be taught together during the regular session. Seniors will be taught in four divisions, one graduating in March, the others in June. Economy of effort and the belief that sufficient good internships would be available April 1 and July 1 dictated the change.

Research. The medical research program, greatly aided by the special legislative appropriation of \$25,000 a year has actively continued. The yearly contributions are a credit to the school, constitute an active leaven in the student body, bring out our best young men and women, and in the long run help scientific progress and raise the level of medical practice.

Development of interest in the history of medicine. The growth in interest in the history of medicine is appar-

ent in this institution as in other medical schools of the country. During the year public lectures on the subject have been given by Dr. Henry Sigerist of Leipzig, Dr. Charles Singer of London, and Dr. Ralph Major of the University of Kansas. Dr. Edgar Herrmann of Saint Paul presented an excellent series of eleven lectures on the "History of Ideas in Medicine." We are indebted to the honorary medical fraternity, Alpha Omega Alpha, for the lectures of Dr. Sigerist.

The Minnesota Academy of Medicine prize. The Minnesota Academy of Medicine has established a prize of \$100, awarded annually, for the best piece of research performed by an undergraduate medical student. The prize for the year 1931-32 was awarded to Mr. Byron J. Olson for his work on the rôle of the eosinophiles in immune reactions. The Medical School wishes to express its appreciation of this gift from the academy for the furthering of medical scholarship.

Basic Science Board. By statute the State Board of Examiners in the Basic Sciences is closely allied with the University, two professors of the medical faculty being members. During the year Dr. J. C. McKinley was appointed by the governor, in place of Dr. E. T. Bell, and was elected secretary-treasurer. Dr. C. M. Jackson was re-elected president of the board.

Respectfully submitted,

E. P. LYON,

Dean of the Medical School

RICHARD E. SCAMMON,

Dean of Medical Sciences

The Mayo Foundation

Herewith is presented a brief summary of the finances and work in medical education and research of the Mayo Foundation from July 1, 1930 to June 30, 1932.

Financial statement. On July 1, 1930, the balance in the foundation fund was \$3,901.96. During the two-year period ending July 1, 1932, there has been added \$533,477.14, gross income from the fund which includes the sales of securities. The total expenses for the same period, including investment costs, were \$886,790.52, of which \$522,603.85 was paid from the foundation fund and \$364,186.67 from the educational fund of the Mayo Clinic. The balance in the foundation fund on June 30, 1932, was \$14,775.25. The total amounts budgeted from the foundation fund for the two years were \$107,800 and \$107,150, respectively.

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

	Pro-fessors	Asso-ciate Pro-fessors	Assist-ant Pro-fessors	Instruc-tors	Total
Number on duty July 1, 1930	22	24	36	63	145
Promotions	2	8	6	..	..
New appointments	2	1	1	6	10
Resigned .....	..	..	4	11	15
Number on duty June 30, 1932	26	31	31	52	140

Applications for fellowships. During the year 1930-31, 1,284 individuals and during the year 1931-32, 1,425 individuals made written inquiries or came for personal interviews concerning graduate work in the foundation. A few of these were ineligible, others were not desirable from one standpoint or another. Some were advised to apply elsewhere and others were advised to seek further training elsewhere and apply later.

On July 1, 1930, there were on file 143 formal applications for fellowships in the various specialties. During the biennial period of 1930-32, 1,246 formal applications were received, 695 of which were completed.

An analysis of the 143 applications on file on July 1, 1930, and of the 695 formal applications received during the period is shown in the following table:

DISTRIBUTION OF FORMAL APPLICATIONS

Majors	On File July 1, 1930	Received	Nominated	Arrived During Period	To Arrive Later	Declined or Withdrawn	Open July 1, 1932*
Medical specialties							
Medicine ...	17	126	27	21	6	104	12
Neurology ...	8	3	3	3	..	3	2
Pediatrics ...	3	17	4	3	1	16	..
Dermatology...	1	9	3	2	1	7	..
Totals	21	160	37	29	8	130	14
Surgical specialties							
Surgery	63	309	42	36	6	291	39
Urology ...	9	30	3	2	1	28	8
Orthopedics ..	2	14	2	2	..	9	5
Oto-laryngology ...	6	18	2	2	..	14	8
Obstetrics ..	2	23	4	4	..	17	4
Ophthalmology ...	15	5	4	1	10	..	..
Proctology ...	1	9	..	..	..	9	1
Neurosurgery ...	3	..	..	..	..	..	3
Anesthesia ...	2	1	1	1	..	1	..
Totals	83	423	59	51	8	379	68
Fundamentals							
Dental surgery ...	23	38	3	3	..	45	13
Radiology ..	7	22	1	1	..	17	11
Pathology ..	2	29	7	6	1	16	8
Chemistry ..	4	7	1	1	..	7	3
Bacteriology ..	1	5	1	1	..	3	2
Physiology ...	2	..	..	..	..	2	..
Biophysics ..	1	..	..	..	..	1	..
Social service...	8	8	8	8	..	..	..
Hematology ...	1	1	1	1	..	..	..
Home economics .	1	..	..	..	..	1	..
Totals	39	112	22	21	1	92	37
Grand totals ...	143	695	118	101	17	601	119

* Still open for appointment, July 1, 1932.

An analysis of the fields in which fellows in the foundation are majoring is shown in the following tabulation:

FELLOWSHIP PERSONNEL

Fields	In Foundation June 30, 1930	Left or Were Transferred to Other Fields	Came or Were Transferred from Other Fields	Here June 30, 1932
Medicine	66	44	45	67
Neurology	5	3	2	4
Pediatrics	9	5	4	8
Dermatology	5	5	7	7
Totals	85	57	58	86
Surgery	105	81	53	77
Neurosurgery .....	..	3	6	3
Urology	9	6	6	9
Orthopedics	5	2	6	9
Oto-laryngology	12	7	6	11
Obstetrics	6	4	6	8
Ophthalmology	4	5	6	5
Proctology	4	2	1	3
Anesthesia	1	..	1	2
Totals	146	110	91	127
Dental surgery	5	5	4	4
Radiology	11	7	5	9
Pathology	14	11	7	10
Physical chemistry	3	3	..	..
Bacteriology	3	3	1	1
Hematology .....	..	..	1	1
Biochemistry	2	1	..	1
Physiology	2	4	2	..
Biophysics	5	5	2	2
Social service	1	8	8	1
Chemical engineering ..	1	1	..	..
Totals	47	48	30	29
Grand totals	278	215	179	242

The reasons why 215 fellows left their fellowships during the period are as follows: 5 on account of illness; 14 transferred to other fields; 16 on leaves of absence, 9 of whom returned during the period; 5 students in dental surgery, left after two years' residence; 8 students in sociology left after three months' residence; 58 left after three years' residence with graduate degrees; 70 left after three years' residence without graduate degrees; 39 left after less than three years' residence not included in above.

Ten of the seventy fellows who left after three years or more of residence without having taken graduate degrees have submitted theses for degrees which have been accepted.

Students from other organizations. Twenty-eight persons, fellows or representatives of other foundations, governments, universities, or other institutions, were on duty for short periods in the Mayo Foundation. Six of these were doing work of a definite research or clinical character and were therefore registered in the Graduate School.

Graduates. Seventy-six graduate degrees were granted to fellows of the foundation during the period covered by this report. The fields in which degrees were granted are as follows:

	Master's	Doctor's
Medicine	16	..
Neurology	2	..
Dermatology	3	..
Pediatrics	1	..
Surgery	25	4
Urology	4	..
Neurosurgery	2	..
Orth. surgery	1	..
Oto-laryngology	3	..
Obstetrics	1	..
Pathology	3	..
Exp. surgery	4	..
Radiology	2	..
Biochemistry .....	..	2
Biophysics .....	..	3
	—	—
	67	9

Mayo Foundation lectures. Besides the lectures by members of the staff on three evenings each week from October to May of each year, eighteen visiting speakers gave lectures. The list follows:

1930

- Emile deGroz, Budapest, October 24. Trachoma.
 H. L. Kretschmer, Chicago, November 3. Foundation Lecture in Urology.
 M. Weinberg, Paris, November 8. Anaerobic Infections and Their Serotherapy.
 G. A. Skinner, Colonel, United States Army, Omaha, November 18. The Army Medical Department through Four Wars.

1931

- M. W. Ireland, Surgeon General, Washington, February 19. Contributions of Medical Corps to Scientific Medicine.
 W. H. Freiburg, Cincinnati, February 26. The reconstruction Surgery of Arthritis.
 W. C. Bartlett, St. Louis, May 4. A Sketch of Virchow's Life and Time.
 R. L. Sutton, Kansas City, May 12. The Long Trek.
 G. E. Vincent, Greenwich, Conn., June 9. Things Medical and Otherwise in Many Lands.
 R. A. Fisher, Harpenden, England, August 20. Recent Advances in Biometry.
 Rolla E. Hoffman, Meshed, Persia, September 17. Medical Practice in Persia.
 Henry E. Sigerist, Leipzig, December 14. The Development of Medicine During the Nineteenth Century. December 15. The Evolution of Medical Ethics.
 G. A. Skinner, Colonel, United States Army, Omaha, October 27. Early Experiences in Tropical Medicine.
 R. E. Scammon, Minneapolis, December 22. The Last Great Plague of London.

1932

- William H. Welch, Baltimore, January 1. English Surgical Reformers of the Sixteenth Century.
 Charles F. Craig, New Orleans, March 29. The Amebiasis Problem.
 Ernst Waldschmidt-Leitz, Prague, May 3. The Biological Significance of Enzymatical Activation.
 N. I. Krasnogorski, Leningrad, June 2. The Application of Physiological Methods to the Study of Psychopathic Conditions.

The publications by faculty members and fellows of the foundation, embodying the completed research work of the biennium, are much too numerous and touch too diverse fields to permit of ready analysis. Among members of the faculty there were 136 contributors and 412 contributions in 1930-31, and in the year 1931-32, 124 contributors and 351 contributions, duplicates being omitted in each case. By fellows of the foundation 115 contributions were made to the list of publications in 1930-31, these being written by 111 individuals. In 1931-32, 100 fellows contributed 101 published papers.

Respectfully submitted,

Louis B. Wilson, Director

Minnesota General Hospital

I submit a statistical report of the hospital for the years July 1, 1930 to June 30, 1932.

The only change in the physical plant which is outstanding is the construction of the new nurses' home which is now in progress and will be completed by April 1, 1933, and the reconstruction of the operating rooms and new facilities and quarters for the X-Ray Department.

It will be noted in the statistical report that there has been an increase in the visits to the Out-Patient Department of about 10 per cent during this last year. Since this trend is still continuing in the present fiscal year, it will be necessary to answer in the near future the following questions with regard to the Out-Patient Department:

1. How great an attendance is necessary adequately to supply sufficient teaching material of the ambulant type?
2. How much cash outlay does the administration feel it should be necessary to expend in order to obtain the needed amount of teaching material?
3. What policy should be adopted in regard to the increasing demands for free service?
4. Should fees be raised to cover more nearly the cost of care or should fees be abolished entirely to remove the competitive element from teaching practice?
5. Has the Out-Patient Department any legal or moral obligation to furnish free or low-pay professional and medical care to the poor of the state?

With regard to the In-Patient Department, it is advisable to call attention to the fact that the hospital has never yet operated at capacity because of insufficient funds. In 1931-32, \$30,000 was added to the appropriation from state and county funds. This permitted the daily average number of patients to be increased about 19 over the previous year. By means of economies in buying and administration the daily average number of patients will probably be increased in the fiscal year 1932-33 by another 20 beds. Actually the capacity of the hospital could be stepped up to an average of between 450 to 465 patients per day if more money could be earned from state and county funds. In view of a constant list of patients waiting for admission, it is essential to bear in mind that the reason for not admitting patients promptly is lack of funds for capacity operation of the physical plant.

Respectfully submitted,

HALBERT L. DUNN, Director

OUT-PATIENT DEPARTMENT
Clinic Attendance, July 1, 1930 to June 30, 1932

	New Patients		Increase or Decrease		Revisits		Increase or Decrease		Total Visits		Increase or Decrease	
	1930-31	1931-32	Per Cent		1930-31	1931-32	Per Cent		1930-31	1931-32	Per Cent	
Admission Medicine	4,398	4,860	462	10.50					4,398	4,860	462	10.50
General	499	938	439	87.98	9,020	13,730	4,710	52.22	9,519	14,668	5,149	54.09
Cardiac	468	459	9*	1.92*	1,210	1,026	184*	15.21*	1,678	1,485	193*	11.50*
Chest	319	372	53	16.61	1,155	1,951	796	68.92	1,474	2,323	849	57.60
Gastrointestinal	373	271	102*	27.35*	21	17	4*	19.05*	394	288	106*	26.90*
Metabolism	75	82	7	9.33	693	813	120	17.32	768	895	127	16.54
Neurology	828	782	46*	5.56*	990	980	10*	1.01*	1,818	1,762	56*	3.08*
Skin												
" L " clinic	185	193	8	4.32	4,610	5,941	1,331	28.87	4,795	6,134	1,339	27.92
Dermatology	835	739	96*	11.50*	2,985	2,938	47*	1.57*	3,820	3,677	143*	3.74*
Surgery												
General	1,120	880	240*	21.43*	4,178	4,528	350	8.38	5,298	5,408	110	2.08
Genito-urinary	303	316	13	4.29	5,139	3,491	1,648*	32.07*	5,442	3,807	1,635*	30.04*
Goiter	75	41	34*	45.33*	186	326	140	75.27	261	367	106	40.61
Reconstructive	24	17	7*	29.17*	112	36	76*	67.86*	136	53	83*	61.03*
Tumor	302	477	175	57.95	1,233	1,808	575	46.63	1,535	2,285	750	48.90
Gynecological	42	68	26	61.90	424	591	167	39.39	466	659	193	41.42
Orthopedic	519	450	69*	13.29*	732	788	56	7.65	1,251	1,238	13*	1.04*
Urology—female	85	152	67	78.82	215	267	52	24.19	300	419	119	39.67
Ear	500	508	8	1.60	1,592	2,520	928	58.29	2,092	3,028	936	44.74
Eye												
General	1,457	1,621	164	11.26	1,511	1,362	149*	9.86*	2,968	2,983	15	.50
Refraction	1,039	1,041	2	.19	553	233	320*	57.87*	1,592	1,274	318*	19.97*
Nose and throat	1,121	1,109	12*	1.07*	1,572	2,074	502	31.93	2,693	3,183	490	18.20
Obstetrics	467	372	95*	20.34*	2,551	2,060	491*	19.25*	3,018	2,432	586*	19.41*
Gynecology	947	971	24	2.53	3,072	2,920	152*	4.95*	4,019	3,891	128*	3.18*
Pediatrics	1,328	1,284	44*	3.31*	3,681	3,913	232	6.30	5,009	5,197	188	3.75
Nutrition	69	136	67	97.10	122	302	80	65.57	191	438	247	129.32
Dental	460	418	42*	9.13*	1,188	1,031	157*	13.22*	1,648	1,449	199*	12.08*
Night clinic												
Genito-urinary	57	33	24*	42.11*	2,257	1,960	297*	13.16*	2,314	1,993	321*	13.87*
" L " clinic	29	33	4	13.79	1,962	1,744	218*	11.11*	1,991	1,777	214*	10.75*
Totals	17,924	18,623	699	3.90	52,964	59,350	6,386	12.06	70,888	77,973	7,081	9.99

* Decrease.

IN-PATIENT DEPARTMENT

Patients Admitted, Treated, and Hospital Days
July 1, 1929 to June 30, 1932

	1929-30		1930-31		1931-32	
Patients in the hospital at the beginning of the year	228		359		352	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Total patients admitted						
Private	319	6.4	346	6.2	379	6.8
Pay	1,093	21.9	1,206	21.7	995	17.9
Free	876	17.6	969	17.5	626	11.2
County	2,698	54.1	3,030	54.6	3,573	64.1
Health Service*	894	....	886	....	1,195	....
	5,880		6,437		6,768	
Total patients treated						
Private	293	5.8	318	5.4	364	6.5
Pay	1,093	21.5	1,164	19.8	971	17.2
Free	678	13.3	962	16.4	601	10.7
County	3,020	59.4	3,422	58.3	3,699	65.6
Health Service*	890	....	883	....	1,184	....
	5,974		6,749		6,819	
Total days hospital care						
Private	3,703	3.7	3,066	2.7	3,560	3.0
Pay	12,659	12.5	13,170	11.5	11,459	9.6
Free	9,176	9.1	16,947	14.8	14,707	12.3
County	75,803	74.8	81,039	70.9	89,828	75.1
Health Service*	4,527	....	4,807	....	6,520	....
	105,868		119,029		126,074	
Average days per patient						
Private	12.5		9.64		9.78	
Pay	11.58		11.31		11.8	
Free	13.53		17.61		24.47	
County	25.1		23.68		24.28	
Health Service.	5.		5.44		5.5	
	13.04		13.53		15.16	
Highest daily census	388		378		387	
Daily average number of patients						
Private	10.14		8.4		9.72	
Pay	34.68		36.		31.3	
Free	25.11		46.43		40.1	
County	207.88		222.		245.43	
Health Service.	11.8		13.1		17.81	
	288.69		325.93		344.36	

* Not included in per cent.

IN-PATIENT DEPARTMENT

Financial Statement, July 1, 1930 to June 30, 1932

	1930-31	1931-32
Income		
Pay service	\$141,401.97	\$138,694.07
Pharmacy	13,431.09	13,981.45
Out-Patient	28,613.14	33,084.50
X-Ray and miscellaneous	346.97	184.75
County patients	343,207.12	338,438.64
Total	\$527,000.29	\$524,383.41
Expenditures		
Salaries and wages	\$300,644.41	\$308,881.37
Supplies and expense	297,705.99	274,350.32
Capital	13,342.20	6,826.73
Total cost of operation	\$611,692.60	\$590,059.42
Less Out-Patient Department	103,880.00	105,080.00
	\$507,812.60	\$484,978.42
No. of patient days	119,029	126,074
Cost per patient day	\$4.27	\$3.85

OUT-PATIENT DEPARTMENT

Summary, July 1, 1930 to June 30, 1932

	1929-30	1930-31	1931-32	1931-32 Per Cent Increase over 1929-30
Number of patient visits	65,181	70,888	77,973	19.62
Number of services ...	90,044	95,179	105,357	16.95
Number of services per visit	1.38	1.34	1.35	.00
Amount of patient fees	\$30,122.95	\$37,159.91	\$43,353.00	43.92
Average fee per patient visit	\$0.4621	\$0.5242	\$0.5560	20.32
Cost of operation		\$103,880.00	\$105,080.00	
Average cost per patient visit		\$1.465	\$1.347	

OUT-PATIENT DEPARTMENT

Amount of Services—Pay, July 1, 1930 to June 30, 1932

Fees - Pay Patients						Increase or Decrease
	1930-31		1931-32			
	Dollars	Per Cent	Dollars	Per Cent	Dollars	
Admissions . . .	12,300.90	33.5	14,622.30	34.0	2,321.40	18.87
Registrations . . .	1,519.80	4.1	1,478.75	3.4	41.05*	2.70*
Laboratory . . .	1,361.05	3.7	1,668.25	3.9	307.20	22.57
X-ray	8,992.55	24.5	8,219.15	19.1	773.40*	8.60*
Drugs	8,627.31	23.5	9,870.05	22.9	1,242.74	14.40
Dental	732.60	2.0	605.00	1.4	127.60*	17.42*
Optical	3,211.15	8.7	6,583.00	15.3	3,371.85	105.00
Total	36,745.36	100.0	43,046.50	100.0	6,301.14	17.15

* Decrease.

Amount of Services—Free, July 1, 1930 to June 30, 1932

	Fees—Free Patients					
	1930-31		1931-32		Increase or Decrease	
	Dollars	Per Cent	Dollars	Per Cent	Dollars	Per Cent
Admissions ..	1,748.20	2.53	2,561.26	40.4	813.06	46.51
Registrations ..	1,931.52	2.80	2,385.85	37.6	454.33	23.52
Laboratory ..	189.25	2.7	117.25	1.8	72.00*	38.04*
X-ray	1,801.50	26.1	416.00	6.6	1,385.50*	76.91*
Drugs	917.61	13.3	572.60	9.0	345.01*	37.60*
Dental	185.50	2.7	47.75	.8	137.75*	74.26*
Optical	128.95	1.9	238.55	3.8	109.60	84.99
Total	6,902.53	100.	6,339.26	100.	563.27	8.16

* Decrease.

OUT-PATIENT DEPARTMENT

Number of Services—Pay, July 1, 1930 to June 30, 1932

	Increase or Decrease					
	1930-31		1931-32		Increase or Decrease	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Admissions ..	54,306	70.6	59,214	70.2	4,908	9.04
Registrations ..	2,539	3.3	2,992	3.5	453	17.84
Laboratory ..	1,007	1.3	2,200	2.6	1,193	118.47
X-ray	3,025	3.9	3,133	3.7	108	3.57
Drugs	14,337	18.6	15,423	18.3	1,086	7.57
Dental	661	.9	560	.7	101*	15.28*
Optical	1,012	1.3	817	1.0	193*	19.27*
Total	76,887	100.	84,339	100.	7,452	9.69

* Decrease.

Number of Services—Free, July 1, 1930 to June 30, 1932

	Increase or Decrease					
	1930-31		1931-32		Increase or Decrease	
	No.	Per Cent	No.	Per Cent	No.	Per Cent
Admissions ..	7,601	41.6	10,215	48.6	2,614	34.39
Registrations ..	8,470	46.3	9,524	45.3	1,054	12.44
Laboratory ..	93	.5	142	.7	49	52.69
X-ray	593	3.2	180	.9	413*	69.65*
Drugs	1,302	7.1	811	3.9	491*	37.71*
Dental	152	.8	35	.2	117*	76.97*
Optical	81	.4	111	.5	30	37.04
Total	18,292	100.	21,018	100.	2,726	14.90

* Decrease.

Social Service Department of the Minnesota General Hospital

From July 1, 1930 to June 30, 1932, the Social Service Department of the Minnesota General Hospital had an average of 7.14 social workers, and rendered treatment to 2,683 patients.

Of this group of patients 843 were found to have social problems as the cause or the result of their medical conditions. It was therefore necessary to make for each patient a full social study for the purpose of establishing

a social diagnosis. Social treatment was then worked out on the basis of medical recommendations and advice, and extending for most patients over a period of four to eight months, for this is the meaning of intensive medical-social case work.

A total of 1,297 patients required one or more minor services of the Social Service Department in order to carry out medical recommendations. For them life was not complicated by both illness and one or more major social problems; they simply were sick people not quite able to comply with medical recommendations without help. They needed assistance in finding and having someone pay for board and room near the hospital while receiving outpatient care; or they needed advice and assistance in securing drugs in their home towns, or assistance in arranging for them to come regularly to the Out-Patient Department for observation and treatment. Many of these slight-service cases are carried by the Social Service Department as long as the patient is under medical care of the hospital or Out-Patient Department, or until the hospital social worker has been able to work out arrangements which the patient or his family can carry through on subsequent similar occasions.

Among 543 patients found to have social problems accompanying their illness, sickness was a secondary hardship for most. They had for some time prior to their illness been under the supervision of a non-medical social agency, and by this agency they were sent to the hospital. The non-medical social worker requested the hospital social worker to interpret the patient to the hospital, and to interpret medical advice and recommendations back to her so that she might incorporate these plans into others which were being made for the patient and his family. These are known as steering cases and like the intensive and slight-service group require careful interpretation and joint planning over several weeks or months, necessitating, of course, the giving of many reports and the keeping of carefully written records.

It may be of interest to know the sources through which patients are referred to the Social Service Department. There were 2,177 new patients over this two-year period, while 506 were carried over from the previous year or were reinstated within the year. Of the 2,177 new patients, 462 were referred by the medical staff of the Out-Patient Department, 699 by the medical staff of the hospital, 132 by the hospital and dispensary administration, 49 by hospital and dispensary nurses, and 159 by social workers of our staff. Six hundred seventy-six were referred by sources outside the hospital, 543 being referred by non-medical social agencies and nurses of the Twin Cities and throughout the state; and 133 by the patient himself, a member of his family, a minister, employer, or some other interested person outside an organized social agency.

Over this two-year period the department carried an average of 424.29 cases each month; and a monthly average of 59.4 cases for each social worker.

While case work is the primary function of the Social Service Department, it is well understood that through the department's work with individual patients the social as-

pect of some of the hospital's functions have become apparent. Sometimes we are asked to give advice regarding admission, assist in the regulation of out-patient fees, help with follow-up work, and interpret medical and institutional procedures. For patients not requiring any other service of the department, 4,357 such services were rendered, and therefore not included in the case work group already outlined. The monthly average number of such services rendered by the department was 305.9, while the monthly average for each worker was 42.8.

Parallel to our responsibility for the medical-social care of the patient is that of teaching. Over this two-year period the department has had 27 students of medical social work, most of whom were doing graduate work. These student worked under close supervision from twelve to eighteen hours a week depending upon the course for which they were registered. Several lectures have been given for postgraduate nurses, and several others for the orientation of sociology students who were making community agency observations.

In an effort to promote sounder working relationships with the community agencies it has been our practice to attend meetings of these organizations, participate in their programs when requested to do so, and to hold group conferences with them from time to time as mutual problems arose.

The staff has been active in the work of the Minnesota District of the American Association of Hospital Social Workers, has participated in the programs of the State Hospital Association, and attended the State Conference of Social Work. The department was also represented both years at the National Conference of Social Work, and the annual meeting of the American Hospital Association.

For the growth that has occurred during this two-year period credit is due to the cordial co-operation of other departments within the hospital and Out-Patient Department; the co-operation of non-medical social agencies overburdened to the point of breaking; to the interest of the Sociology Department; the volunteer assistance of the Faculty Women's Club; and the untiring efforts of a loyal staff.

Respectfully submitted,

FRANCES M. MONEY, *Director*

The School of Nursing

The School of Nursing submits a report for the period from July 1, 1930 to June 30, 1932 under eleven headings.

Grading of schools of nursing. For the past seven years, the University has participated in a nation-wide survey of nursing and nursing education. Among the pertinent facts brought out by the committee making the study (final publication and results of grading have not yet been made) are: faculty members in schools of nursing in the United States have had quite inadequate professional and academic preparation. Entrance requirements to schools of nursing have been extremely low. Because of the economic value of the student to the hospital, the basis of selection has been all too often "useful student," not "high grade graduate." Many hospitals have in the past tended

to pay more attention to getting their work done than they have to the preparation of the nursing student for her future duties as a graduate. Schools of nursing have increased from 15 in 1880 to 2,125 in 1928; medical schools in comparison have decreased from 100 to 79 in the same period. Nursing graduates have increased from 157 in 1880 to 17,522 in 1928 (22,123 in 1930); graduates of medical schools have increased from 3,241 in 1880 to 3,962 in 1928. The population has increased 16 per cent during the decade 1920 to 1930, while the number of nurses has increased 97 per cent during the same period. The tremendous overproduction of nurses has had particularly vicious results in the fields of private duty into which go not only the high grade nurses who select this type of nursing from preference, but also most of the misfits from all other fields. (This latter fact may account for much of the public dissatisfaction with its nursing care.) There is no need at present for a school of nursing to accept and graduate any but the finest type of individual.

The School of Nursing, its administrative and advisory officers, have taken cognizance of the findings of this committee in the conduct of our school, and await the final rating of the school, which is expected within the coming year.

Faculty. Our faculty has had few changes in rank or personnel. Miss Lucile Petry has been promoted from instructor to assistant professor, a few replacements have been made, and three additional members, each with the rank of instructor, have been appointed in the hospitals to which postgraduate students have been assigned for clinical experience. The faculty has succeeded not only in carrying its usual dual duties of nursing care and nursing education, but has also maintained a persistent effort for further preparation and continued growth stimulating alike to the individual and to the group.

The director was granted leave of absence during five weeks of the 1932 Summer Session to teach a course in nursing at the University of Chicago. She has in the past two years conducted three institutes on nursing under the auspices of the Commonwealth Fund of New York, these being in Tennessee, Kansas, and Maine. Institutes have also been conducted by Miss Petry in Nebraska and North Dakota. Members of the faculty have participated actively in the work and programs of local, state, and national nursing organizations, the director serving as a member of the board of directors of the National League of Nursing Education.

Curriculum. The curriculum has been revised so that all class work precedes or coincides with the clinical experience in the various services. This closer correlation of class and experience has been made possible through the inauguration of a group system of rotation of students in which the assignment to class and clinical experience may be made for the entire three-year period at the beginning of each student's course. Class changes include rearrangement of certain subjects together with the addition of introductory courses in psychology and sociology. With these additional subjects, the class hours number but 887 (12½ per cent of the entire curriculum) whereas the clinical

experience hours are 6,155 (87½ per cent of the entire curriculum) making a total of 7,042 hours.

Student enrolment and living conditions. The enrolment of students together with the completion of course by calendar year is indicated in the following table:

	Entered	Graduated		Entered	Graduated
1912.....	8	1923.....	105	9
1913.....	4	1924.....	101	57
1914.....	6	1925.....	159	76
1915.....	11	1926.....	192	60
1916.....	10	1927.....	200	52
1917.....	12	1928.....	180	98
1918.....	13	1929.....	160	109
1919.....	20	1930.....	176	134
1920.....	24	1931.....	194	99
1921.....	56	1932(to July 1)	41	100
1922.....	113	Total.....	1,636	935

Steps have been taken to improve living conditions throughout the organization. A new nurses' residence at the Miller Hospital, accommodating 133 persons, was opened in October, 1931; that of the Minneapolis General Hospital has been remodeled; and, with much appreciation, we announce that the contract has been let for the new residence at the University, which will house 300, and that actual building has been begun. The Minneapolis General Hospital has added a hostess to its residence staff.

Library. The library facilities for nursing students, of whom there have been some 400 in residence, are quite inadequate. Many additions in books and magazines have been made during the biennium.

Courses for graduate nurses in medical, surgical, pediatric, and operating room nursing, and in the care of private patients, were initiated August 28, 1931. Eight students matriculated in the fall quarter 1931, eleven in the winter, and twelve in the spring of 1932. These courses were introduced with a twofold purpose. First, to supplement undergraduate student nursing care of patients, and second, to provide graduate nurses the opportunity for further professional and academic preparation. The courses, originally three and six months in length, were extended January 4, 1932, to twelve months with the exception of the course in care of private patients, which may be three, six, or twelve months in length.

Extension courses have included the introduction in 1931 of a six-credit course in anatomy for graduate nurses by Dr. Charles M. Blumenfield. Miss Petry conducted in 1931 a six-credit course in teaching and supervision at Rochester, Minnesota, with 96 graduate nurses enrolled.

Summer Session. New courses were offered in 1931 and continued in 1932 in ward administration, records and record keeping, and teaching of principles and practice of nursing. A course, "Recent Studies in the School of Nursing," was added in 1932. Guest instructors were in 1931 Miss Dorothy Rogers, dean, University of Texas School of Nursing, and in 1932 Miss H. Lenore Bradley, research worker, State Board of Nurse Examiners, New York.

Financial studies have been made of the cost of nursing service in the Minneapolis General and Northern Pacific Hospitals. These studies are somewhat similar to those made earlier in the Minnesota General and Miller Hospitals by Miss Phoebe Gordon and indicate, as did Miss Gordon's studies, that the nursing student is a financial asset to the hospitals.

Endowment. Through the efforts over a period of time of Dr. R. O. Beard, assisted by members of the alumnae, an endowment fund for the School of Nursing of \$7,032.48 has been subscribed. Of this sum, \$2,506.48 has been paid. This latter amount plus the interest of \$377.73 makes a total of \$2,884.21 paid to date.

There are many needs in the School of Nursing at present, but perhaps the greatest in terms of education is an environment, not now prevailing, in which the students may actually practice the giving of exquisite nursing care under expert direction. To produce a nurse fitted adequately as a graduate for satisfactory service to the individual and to the community presupposes essentials in her preparation not unlike those required in other fields of education.

Respectfully submitted,

KATHARINE J. DENSFORD, *Director*

Public Health Nursing

The following report describes the progress during the biennium of the curriculum in Public Health Nursing in the Department of Preventive Medicine and Public Health.

Enrolment Report

	July 1928-30	July 1930-32
I. Total enrolment including Summer Sessions		
Academic	77	167
Summers	169	189
	246	356
II. Degrees granted	14	24
III. Certificates granted.....	45	64

The annual report offers an opportunity for an inventory of our needs and of our achievements. The steady increase in the enrolment reached a new peak of 91 students this academic year, doubling the record of two years ago. Many of these students must do part-time work in addition to their studies, but there is a consistently larger number working toward certificates and degrees. The first degree granted to a public health nurse in the University of Minnesota, other than to students in the five-year undergraduate course, was awarded in 1928, and since then 9 graduate nurses have completed this curriculum, and 4 are expected to complete it at the end of the second term of the current Summer Session. Of the 9 degree students, 3 have graduated with honors.

With the rapid expansion of the public health program immediately following the war, numerous positions for workers in the public health field were created with relatively few persons prepared to undertake such work. Because of the insistence of the demand, there was an influx of untrained or inadequately prepared nurses into the

field. There has been increased interest and desire among nurses to do public health work, and a growing recognition that specialized preparation is necessary for appointment to the more desirable staffs and positions.

Because of this, training centers have developed in universities and colleges throughout the country, and the enrolment of students has steadily mounted, with the result that more nurses with some preparation are being sent back into the field each year. For the past few years many of these partially prepared nurses have been unable to find positions. This situation is due to the inability of communities to pay for such service, rather than to the fact that health needs of the community have been met.

It is still unfortunately true that appointments of unqualified nurses to public health nursing positions are being made frequently. If all the public health nurses were fully qualified, there would be fewer in number because of the longer period of preparation. This would reduce the excess and at the same time improve the public health program through the employment of better qualified workers.

Curriculum changes include the gradual addition of

prerequisite courses with the plan that by the fall of 1935 all basic background and related courses will precede the professional content courses.

Present problems are concerned with a more careful study of the basis of selection of students; a continued study of field experience, with special interest directed to the length of service and the content of experience included; a continued study of the possibilities of a rural training center for public health nursing in Minnesota, and the development of facilities for graduate study in public health nursing.

The director of the Course in Public Health Nursing was granted a sabbatical leave of one year, 1930-31. This was spent in study, and a Master's degree was earned. The director also served as visiting professor in Teachers College, Columbia University, during the summer session of 1931. Appreciation is extended to Miss Ruth Houlton, who served for the director in her absence.

Respectfully submitted,

EULA B. BUTZERIN, *Director*

The College of Dentistry

NO radical or revolutionary changes have been introduced either in the teaching or practice of dentistry, but there has been decided progress made in the professional standards expected of students who are graduating and for dentists in practice. These facts make it increasingly evident that only those students who present a satisfactory record in their required work, especially in the sciences of the pre-dental course, should be admitted. We believe it to be unsound, both educationally and economically, to offer training to those students who give little promise of completing the professional course of instruction in three years.

*William F. Lasby, Dean
The College of Dentistry*

The College of Dentistry

To the President of the University:

Sir: I submit herewith the report of the College of Dentistry for 1930-32. Progress has been made in curriculum matters, in both the medical science subjects and in the methods and techniques of instruction. In our clinic, we give our students definite training in the special knowledge and skill required in the practice of dentistry. No radical or revolutionary changes have been introduced either in the teaching or practice of dentistry, but there has been decided progress made in the professional standards expected of students who are graduating and for dentists in practice. These facts make it increasingly evident that only those students who present a satisfactory record in their required work, especially the sciences of the pre-dental course, should be admitted. We believe it to be unsound, both educationally and economically, to offer training to students who give little promise of completing the professional course of instruction in three years.

Clinic. Three facts may be mentioned in connection with the college dental clinic—the clinic which was established on the campus forty years ago when the University took over the College of Dentistry from the down town Hospital College. (1) The annual registration of patients in recent years is about six thousand. They receive the best dental examination, diagnosis, and treatment which it is possible to provide for them. The moderate fees which they pay for their work enable them to secure adequate dental care which many of them could otherwise not afford. This is especially true in orthodontia. (2) The teaching of dentistry requires that students shall have the actual experience of performing dental operations on patients under competent instruction in order to acquire the knowledge and develop the skill and judgment required of the general practitioner of dentistry. The clinic offers unusually good opportunities for their training. (3) The fees collected from these patients for the services they receive in the clinic pay for the materials used and, in addition, provide some money for the purchase and upkeep of equipment, thereby reducing the cost to the state of maintaining the College of Dentistry.

Practitioners' courses. The short courses offered through the co-operation of the University Extension Division to practicing dentists have been well patronized during the past two years. The improved facilities which the new building provides will permit us to offer more graduate work in the future. In fact, one of the important services of the College of Dentistry is to make available advanced instruction to dentists in practice.

Library. The gift of \$1,500 which was received from the Carnegie Foundation for the Advancement of Teaching has been expended in the purchase of the more recent books on dentistry. Additional gifts of money or books,

especially books of earlier editions, will greatly add to the value of the library.

Faculty activities. Members of the faculty have continued to occupy responsible executive positions in local, state, and American dental associations, and are called upon to give lectures and clinics at many local and national meetings. The dean is president-elect of the American Association of Dental Schools and will serve as president for the year beginning March, 1933. Two members of the faculty have been honored by receiving honorary degrees of fellow in the American College of Dentists.

Research work. For the first time in the history of the College of Dentistry, the University has made grants from the general research funds to assist research on the subject of "The Cause and Prevention of Dental Caries" under the direction of Professor P. J. Brekhus. Drs. Waldron, Worman, and others are building up their teaching materials and research in oral pathology.

School for Dental Hygienists. The two-year course for dental hygienists continues to offer training to young women who wish to prepare for dental educational work in public schools, hospitals, and other public institutions, or for work in private offices. The enrolment has taxed the capacity of the department for the past two years. The new building will provide excellent facilities for their work and overcome some of the present difficulties.

Relationship with the alumni. A cordial and happy relationship exists between the College of Dentistry and the alumni of the institution who are engaged in the teaching and in the practice of dentistry. A number are engaged in the teaching of dentistry; four are deans of colleges of dentistry, and in at least eighteen schools in the United States and in several foreign countries are teachers who are graduates of Minnesota's College of Dentistry.

The new building. The new building for the College of Dentistry is now completed and will be in use at the opening of the fall quarter. It forms the central section of the Medical Science quadrangle. It faces the University Hospital on the south and Washington Avenue on the north. The faculty in Dentistry especially wants to express appreciation to the president of the University and to the Board of Regents and to the architects of the new building for the results which have been achieved. The location of the building itself, the exterior appearance, and the interior design and finish make it an outstanding building on the campus and it is as complete and well equipped as any building which has ever been erected anywhere for the teaching of dentistry.

Respectfully submitted,

W. F. LASBY, Dean

The College of Pharmacy

THANKS to resolute action on the part of the State Pharmaceutical Association, opposition to the four-year course has ceased entirely and its place has been taken by a remarkable support of the course. Indeed, the demand for higher standards in pharmacy is expressing itself unmistakably toward a five-year course on the two- and three-year plan, that is, two years of general college preparation and three years of wholly technical pharmaceutical training. Not only are pharmacists beginning to desire this course, but students themselves want it.

Frederick J. Wulling, Dean
The College of Pharmacy

The College of Pharmacy

To the President of the University:

Sir: Permit me to submit to you this biennial report covering the college period from July 1, 1930, to and including June 30, 1932.

Advancement of standards. The past two years have greatly strengthened the four-year course authorized by the regents in April, 1926. The course has been further standardized and improved and the objection of a comparatively small group of pharmacists toward educational advancement has entirely ceased. The State Pharmaceutical Association, which recommended a minimum four-year course fourteen or fifteen years ago, materially strengthened the action of the Board of Regents by their successful efforts to have the legislature make graduation from the College of Pharmacy or from other colleges of equal standing a prerequisite to examination by the State Board of Pharmacy for license to practice in Minnesota. The "graduate requirement" was enacted by the Legislature of 1929. The fact that this requirement was made effective at once showed the temper of the pharmacists. Through the efforts of some of the leading association members, all procrastination as to pharmaceutical educational advancement was stopped and a determined effort to take and to support all of these individual means for elevating pharmaceutical standards took its place. Since this resolute action on the part of the State Pharmaceutical Association, opposition to the four-year course has ceased entirely and its place has been taken by a remarkable support of the course. Indeed, the demand for higher standards in pharmacy is expressing itself unmistakably toward a five-year course on the two- and three-year plan, that is, two years of general college preparation and three years of wholly technical pharmaceutical training. Not only are pharmacists beginning to desire this course, but students themselves want it. Two years ago the pharmacy students presented a petition to me asking for a five-year course leading to a higher degree than the bachelor's, or an advancement of the present bachelor's course from four to five years. Most of the petitioning students had voluntarily more than met the forty-five credit academic content of the four-year course. The State Pharmaceutical Association Committee on the College of Pharmacy became aware of this request and endorsed it. I quote in this respect from the committee chairman's report to the association at its meeting in February, 1932:

Each succeeding entering class is made up of students who have had increasing previous college training. This fact was again apparent at the beginning of the current school year. The previous college training of the new matriculants is presented in the following table:

1.92%	had seven years of previous college training
1.92%	had three years of previous college training
3.84%	had more than two but less than three years of previous college training
21.15%	had two years of previous college training
5.77%	had more than one year but less than two years of previous college training
42.30%	had one year of previous college training
1.92%	had less than one year of previous college training
21.13%	had no previous college training
99.97%	Total

This voluntary preliminary preparation on the part of students points directly to a minimum five-year course on the two and three plan (that is, two years of basic academic work and three years of purely technical pharmaceutical work) as the next logical progressive step in pharmacy. In the past advancements have been initiated by the pharmacists and never by the students. We are in a new order of things and the students are suggesting or designating in a consistent and intelligent way what they desire in the matter of college training. Every pharmacist is an asset to his community, to the state, and to the nation.

Of late physicians have made efforts in many parts of our country for a closer co-operation with pharmacists. In these contacts the fact was brought out strongly that pharmacists are not the equals actually of physicians. This fact retards the co-operation seriously. If pharmacists were much more nearly the intellectual and social equals of physicians, they would prosper more in every way and the public would be better served. Since that fact is being increasingly recognized everywhere, it would seem the part of wisdom to provide just as soon as possible a parity, or a nearer approach to parity than now exists, of physicians and pharmacists. The five-year course is now indicated and needed and should be established.

The report of the committee, which included the recommendation that the five-year course be established, was accepted and approved without dissent or discussion. The association therefore is on record as supporting a five-year course. The college has advocated such a course for a number of years. It believes it is not only the next logical but also the next necessary step to take—a step which will be a natural outgrowth of the successful and generally approved four-year course.

Specialized courses. Another demand that is springing up is for pharmaceutical engineers. The manufacture of pharmaceutical preparations on a large scale is still increasing. A few years ago it was thought the peak of development had been reached in that field, at least quantitatively. Manufacturing on the large scale is probably still on the

increase, but it is certain that methods and standards are being improved requiring more exact and scientific workmanship and much better administration. The term "pharmaceutical engineer" has been used quite frequently of late to designate the person who has a comprehensive pharmaceutical training and who can also plan and lay out and equip and operate large pharmaceutical manufacturing plants. As far as I know, no college or university has ever turned out men so qualified.

Graduate work. Broadly speaking there are two kinds of colleges of pharmacy, the older type of association colleges and the newer university colleges. The former afford hardly any opportunity for graduate work. Some of the university colleges have no pharmaceutical graduate work facilities but the number offering graduate work is increasing. This increase is in the growing demand for pharmacists who have more than four years of training. One of the happy indices of the development of pharmacy is this demand for a training beyond four years. Our own University has attracted wide attention in pharmaceutical circles because of the facilities it offers in higher pharmaceutical work and research leading to the Ph.D. degree in the science fields of pharmacy. This graduate work is still in the pioneering stage and on that account criticism has been expressed against the high standards attaching to graduate work at the university. This criticism can be tolerated or ignored. The need for adequate undergraduate standards has now been practically universally conceded and recognized. In due time the higher graduate requirements will be equally recognized.

Graduate fellowships. For many years the pharmaceutical faculty has suggested the establishment of fellowships at the college carrying a living sum of money. The first response came from the Minnesota State Pharmaceutical Association when at its 1931 meeting at St. Paul, it voted to establish a graduate and/or research fellowship at the college in the sum of \$500. The establishment of the fellowship was approved by the Board of Regents October 3, 1931. Pending approval of the fellowship, Mr. Karl Goldner, B.S. in Phm.C., 1930, was given the fellowship early in September, 1931. The sum of \$500 for the 1932-33 fellowship has already been paid by the association to the University.

College relations with organized pharmacy. The college keeps up its numerous and affirmative contacts with pharmaceutical associations throughout the country. The college was represented by members of its faculty or by correspondence or by program participation at the 1930-31 and 1931-32 conventions of the American Pharmaceutical Association, the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, the National Association of Retail Druggists, and the plant science seminar; educational conferences in pharmacy, pharmacognosy and *materia medica* and chemistry; the National Wholesale Druggists' Association; the Druggists' Research Bureau; the National Conference on Pharmaceutical Research; the World Conference on Narcotic Education; the American Medical Association; the Hennepin County Medical Society; the Minnesota State Pharmaceutical Association; the Northwestern Branch of the Ameri-

can Pharmaceutical Association; the Minneapolis Retail Druggists' Association; the North West Pharmaceutical Bureau; the Minnesota Pharmaceutical Educational Conference; the Minneapolis and St. Paul Veteran Pharmacists' Association; the Lyon-Lincoln County (Minnesota) Medical Association; the State Medical Association. The faculty continued its co-operation with the United States Pharmacopoeial revision work and with the National Formulary revision work and with the rewriting of the National Pharmaceutical Syllabus and gave assistance in a number of surveys and pharmaceutical enterprises relating to pharmaceutical education.

Professor Bachman was re-elected to the secretaryship of the Minnesota State Pharmaceutical Association in 1931 and again in 1932. My own contribution to the Minnesota associational work consisted in carrying on for the twenty-fifth and twenty-sixth consecutive years the considerable work incident to the chairmanship of the Scientific and Practical Section of the association. The chairmanship of this section carries with it the responsibility of formulating a representative program emphatic of the professional and scientific aspect and development of pharmacy (thirty-five numbers on the program), and presiding on one day of the annual three-day association convention.

The association fully met the desire of the medical profession for closer co-operation and toward that end enlisted the assistance of the college during the past two years. Joint meetings and pharmaceutical exhibits at medical meetings and nine or ten addresses by myself at joint meetings and separate medical meetings all were contributions from pharmacy toward a better understanding with medicine.

Faculty publications. As usual these have been reported separately to the president's office.

Research. The faculty and two graduate students did about the usual amount of research work in the science fields of pharmacy, in practical pharmacy, medicinal plant cultivation, and in education. More than usual the college is giving assistance in the scientific work incident to the revision of the *Pharmacopoeia* and of the National Formulary. It would require too much space to enumerate the work done but detailed information can be obtained from my office.

The research work done by Minnesota State Pharmaceutical Association fellow, Karl Goldner, on *aloe* appears to be a definite contribution to the information about this drug. (The thesis covering the work is on file in my office.)

The digitalis research, especially along the lines of assay methods, continued satisfactorily. Some of this research has been or will be published. The usual work with medicinal plant culture continued through the two years and many new facts were learned.

Special lecturers. The old established custom of providing lectures for the student body by experts in their respective fields was continued. As heretofore, the students were excused to attend the two annual meetings of the state association for the purpose especially to listen to the persons of prominence who addressed the convention,

and to be auditors at the sessions of the Scientific and Practical Section.

Moving and still pictures. The college has made some progress in the use of pictures for instructional purposes. No additional equipment for increasing this educational facility was acquired during the biennium.

Special equipment. Not much special equipment was added during the two years but all needed apparatus and supplies were acquired. The Buildings and Grounds Department installed in the various laboratories in the Pharmacy building an air pressure system in 1931 and a suction or vacuum system early in 1932.

A set of about a hundred photographs, individual and group, of eminent American pharmacists was acquired, to be used in the strengthening of the course on the History of Pharmacy. For a similar purpose there was obtained a representative set of reproductions of old pharmaceutical containers. This collection was obtained from the firm, Fritz Bonnmann, Cranenberg, Germany.

Educational trips. The classes made the usual spring field trips for the study of wild medicinal and other plants in their native habitats.

The medicinal plant garden. About thirty species and varieties of plants including some trees were added to the plant garden. The garden is still regarded as the leading one of its kind in the country. Many requests continue to come to the college for advice or instruction in matters relating to medicinal plant cultivation. The college gives this assistance in the fullest degree it can. Recently Professor Fischer made a map of the garden drawn to scale. This map also is in demand. The college is still adding photographs of medicinal plants to its extensive collection.

Scholarships. The Minnesota State Pharmaceutical Association fellowship of \$105 annually is still the only scholarship the college has to offer. The interest of several pharmacists in additional fellowships was aroused about a year ago and possibly may become fruitful in the near future.

Student helpers. No substitution of full-time employees for student helpers appeared possible or wise during the biennium and the old practice of depending upon student help for certain services was continued.

Buildings. Naturally no attempt to enlarge the quarters for pharmacy was made, but shortly consideration should be given this need of the college.

Co-operation with other university departments. Other university departments are continually increasing their demands for services from the College of Pharmacy. This demand increased perceptibly during the biennium.

Book gifts. Mrs. Katherine Frost of St. Paul, widow of Mr. William A. Frost, who was one of the prominent Minnesota pioneers of pharmacy, donated Mr. Frost's pharmaceutical working library to the college. The books are now in the Main Library for cataloging.

Book purchases. The usual allotment to pharmacy for the purchase of books made possible the acquisition of the more important new books on pharmacy and related subjects. Old books of historical interest should be acquired in larger numbers and the hope is expressed that soon some money can be found for that purpose.

Wulling Trust Fund purchases. The important purchase from the income of this fund was the original Dr. Squibb's Diary at a cost of \$60. This two-volume diary and notes are of historical value and are replete with matters and information relating to retail and manufacturing pharmacy. According to information at hand, the University of Wisconsin College of Pharmacy is the only other university college having a copy of this rare book.

Student activities. The purely pharmaceutical bodies of which the students are members are the three fraternities: the Phi Delta Chi, Kappa Psi, Alpha Beta Pi, the sorority Kappa Epsilon, the pharmaceutical honor society, Rho Chi, the Wulling Club, and the several class organizations. Rho Chi and the Wulling Club brought prominent speakers to the college and helped materially in increasing the professional and scholastic interest as against the commercial interest of pharmacy.

Pharmaceutical exhibits. The college had more than the usual demand for pharmaceutical exhibits or participation in exhibits during the past two years. The principal and major exhibit in which the college participated was that in connection with the state medical convention held in the Auditorium, St. Paul, during the week beginning May 16. Practically the entire exhibit, housed in two booths, was furnished by the college.

Practice of economy. While the college did not in any wise lessen its standards of instructional work and research, it practiced constant economy. For a number of years the college, because of the expansion of its work incident to the new four-year course requirement, has greatly desired to strengthen its faculty by the addition of another member of full professorial rank and the substitution of two full-time instructors and two full-time service men for the present student helpers. The faculty normally carries a fairly heavy load of work but nevertheless under the circumstances all co-operated and absorbed the additional work. This fact involved a very considerable saving. Not only has the work of the faculty expanded during the biennium but the enrolment has increased with no appreciable increase in the budget (less than one hundredth of one per cent).

The college was instrumental in creating savings to those departments to which it furnishes medicinal preparations at the cost of materials because the total service of that kind was greater than before the present biennium.

Another saving was made by increasing the crop of medicinal plants and plant parts for use in other departments of the college. This lessened the purchases of vegetable drugs in the market.

The present Pharmacy building was designed to house eighty students. The enrolment of the college is more than twice that number. The college has been in need of additional quarters for some time.

Last biennium's report. The 1928-30 biennial report of the college would repay reading in connection with this report.

Respectfully submitted,
FREDERICK J. WULLING, Dean

Technical Schools

*The College of Engineering and
Architecture and the School of Chemistry*

A STUDY of the high school scholastic records of our students as compared with their grades in the University showed, as would be expected, that those who had poor records in high school were very likely to fail in their college work. Many would drop out of college before graduation and even without completing a single year's work.

In order to avoid this vain effort on the part of some of these students at least, a new plan of selective admission has been carried into effect beginning in the fall of 1932. According to this plan, candidates for admission who satisfy the entrance requirements as far as subjects and units are concerned, will be admitted to Engineering, Architecture, or Chemistry, directly, if their high school scholastic records place them in the upper 60 per cent of their classes. Those in the lower 40 per cent, however, will be given individual consideration by the College Committee on Admissions and the University Board of Admissions, taking into account all available information, and will be admitted or rejected according to the recommendations of the board. In this way, such special qualifications as the candidate may possess will be given consideration, as will the recommendation of the high school principal or his representative. Here again, those students who satisfy the minimum requirements may be admitted to the Junior College of the University or to one of the other colleges for which they may qualify.

It is hoped that this plan, although experimental in character, will result in a higher average of ability among our freshmen with a correspondingly lower proportion of failures. While the number of freshmen admitted will probably be less than heretofore, it is not anticipated that the reduction in enrolment will be serious.

Ora M. Leland, Dean
The College of Engineering and Architecture
and the School of Chemistry

The College of Engineering and Architecture and the School of Chemistry

To the President of the University:

Sir: I have the honor to submit the following report for the College of Engineering and Architecture and the School of Chemistry for the two-year period, 1930-32.

This period has been characterized by a general depression which calls for economic studies and readjustments in all phases of activity including university education. Efforts have been made to discover places in our educational and administrative procedures where economy could be effected without reducing the quality of instruction and wherever possible to embrace the opportunity while making changes to make improvements based upon sound principles of educational and professional practice.

Higher standards of admission. For many years it has been our practice to state our entrance requirements as including higher algebra and solid geometry, constituting a third year of high school mathematics, but to permit students to enter without one or both of these subjects provided they present equivalent units in other subjects and with the requirement that they take the subject in which they are deficient in this college and without credit. These two subjects are taught in high schools and more than half of our students usually present both of them for admission. However, they are subcollegiate in character and it should not be necessary to give them in the University except as a matter of convenience to students.

For reasons of economy, therefore, the faculties of Engineering, Architecture, and Chemistry voted to require both higher algebra and solid geometry for admission and to discontinue instruction in these subjects to take effect in the fall of 1932. This change will eliminate the classes in higher algebra and solid geometry and will have a tendency to reduce the number of entering freshmen, thus relieving the crowding in freshman mathematics classes as well as the teaching loads. At the same time, the educational advantage will be gained of raising the average of preparation of our entering students in mathematics.

It is not to be expected, however, that this change will result in a great reduction in enrolment inasmuch as those students who have not had both of these subjects in high school may obtain them by correspondence during the summer through the General Extension Division. Moreover, such students will still have the opportunity to enter one of several other colleges in the University, including the new Junior College if they choose to do so.

Chemistry. Effective in the fall of 1930, high school chemistry was made a requirement for admission to the School of Chemistry. This made it possible to bring all freshmen in chemistry and chemical engineering together in one class in chemistry whereas it had been necessary

previously to place those who had not had any chemistry in a separate class from those who had had chemistry in high school.

Selection on the basis of ability. A study of the high school scholastic records of our students as compared with their grades in the University showed, as would be expected, that those who had poor records in high school were very likely to fail in their college work. Many would drop out of college before graduation and even without completing a single year's work.

In order to avoid this vain effort on the part of some of these students at least, a new plan of selective admission has been carried into effect beginning in the fall of 1932. According to this plan, candidates for admission who satisfy the entrance requirements as far as subjects and units are concerned, will be admitted to Engineering, Architecture, or Chemistry directly if their high school scholastic records place them in the upper 60 per cent of their classes. Those in the lower 40 per cent, however, will be given individual consideration by the College Committee on Admissions and the University Board of Admissions, taking into account all available information, and will be admitted or rejected according to the recommendations of the board. In this way, such special qualification as the candidate may possess will be given consideration, as will the recommendation of the high school principal or his representative. Here again, those students who satisfy the minimum requirements may be admitted to the Junior College of the University or to one of the other colleges for which they may qualify.

It is hoped that this plan, although experimental in character, will result in a higher average of ability among our freshmen with a correspondingly lower proportion of failures. While the number of freshmen admitted will probably be less than heretofore, it is not anticipated that the reduction in enrolment will be serious.

Curricula. A revision of the professional four-year course in chemistry was made in 1931, which includes a series of optional elective groups in the junior and senior years in the fields of bacteriology, biochemistry, and geology, respectively. It is thus possible for the chemistry student to take elective courses in his junior and senior years which will give him the necessary undergraduate preparation for graduate work towards the Doctor's degree in one of these three fields. The professional preparation in chemistry provides a strong foundation for this specialization in bacteriology, biochemistry, or geology. The plan was developed in co-operation with these departments.

Five-year course in architecture. The existing four-year course in architecture has been expanded to cover normally five years, with an increase in credit requirements for graduation from 204 to 225 credits. The usual degree, bachelor of architecture, is granted upon the completion of the five-year course. A greater flexibility of election is thus provided, both with respect to cultural subjects and professional courses in the fields of architecture and engineering. The increase from four to five years will probably tend to discourage certain students who are not well prepared for a course in architecture or not keenly interested in it. This should improve the average quality of the student body in this course.

Architectural engineering discontinued. With the establishment of the new five-year course in architecture, going into effect in 1932, the present four-year course in architectural engineering is discontinued. This was done as a matter of principle, notwithstanding the fact that many universities still have curricula in architectural engineering and a large number of students are enrolled in these courses. In recommending this change, the School of Architecture considered architectural engineering as a combination of two fields, that is, architecture and civil engineering, where these fields should be kept separate. Architectural engineering is not recognized as a separate profession in so far as the professional societies are concerned, such as the American Institute of Architects and the American Society of Civil Engineers.

Graduate courses in the evening. In the fall of 1931, a new plan was established wherein graduate courses would be offered in the evening on the same basis and by the same staff as if given in the daytime. The beginning was made in electrical engineering with a class of about thirty graduate students having the qualifications for study towards the Master's degree. This plan has been successfully operated at several engineering schools located in metropolitan areas, notably the Brooklyn Polytechnic Institute. It enables college graduates who are holding professional positions to continue their college work towards a graduate degree. Our experience during this first year of the experiment has been very satisfactory.

Educational investigations. In connection with the consideration of modifications in entrance requirements, curricula, etc., various studies have been made, particularly regarding the relations between student preparation and college work.

Iowa Placement Tests in English, chemistry, and mathematics have been given to entering freshmen in Engineering, Architecture, and Chemistry since the fall of 1924. Several analyses of the results of these tests have been made from time to time. In 1931-32, Professor R. F. Schuck made a study of the results of the mathematics tests and showed a distinct trend upward in the mathematical ability of freshmen during the past eight years.

Professor O. W. Potter has made a study of the class which entered Engineering and Architecture in the fall of 1924, by individuals to discover what became of each one, the scholastic record of each, the reasons for withdrawal from college, etc.

Special attention has been given to freshman mathe-

matics, owing to the high mortality, which has existed in algebra in particular for several years. A special committee, composed of representatives of high schools and the mathematics departments in the College of Engineering and Architecture, the School of Mines and Metallurgy, and the College of Science, Literature, and the Arts in the University, under the chairmanship of Professor H. R. Douglass of the College of Education, was appointed by the president in the spring of 1931 to inquire into the situation with a view to suggesting remedies.

A special committee of the College of Engineering and Architecture investigated the instruction in freshman algebra in 1931-32 and submitted a comprehensive report, including a number of recommendations for the improvement of conditions in that course.

Professor H. D. Myers made a study of the records of students transferring to Engineering from the junior colleges of Minnesota, as compared with the corresponding records of students who spent their first two years here at the University. While the number of cases was small and limited to those students who graduated here, the results indicated that the students coming from junior colleges did fully as good work here as those who had spent the entire four years here.

A study of the college performance of students as indicated by their grades, in the light of their scholastic rank in high school, indicated that students coming from the lower part of the high school class were not qualified in general for courses in technology. Actually few of them enter Engineering or Chemistry. Therefore, it is reasonable to select students for admission to the technical courses from the upper ranks of the high school classes.

Participation by the University in an educational study of national or international scope was effected through Professor R. C. Jones of Architecture, who, with Professor F. H. Bosworth, Jr. of Cornell University, made a study of architectural schools in the United States and Canada in 1930-31, during which year Professor Jones was on leave of absence. The study was made under the auspices of the Association of Collegiate Schools of Architecture with the support of the Carnegie Corporation of New York. The data, discussions, and conclusions have been published under the title "A Study of Architectural Schools" and provide very useful and desirable information, both as a basis for the comparison of methods in use among the various schools and as material for the consideration of architectural faculties in devising modifications for the improvement of their systems of instruction and administration.

Other studies made include the following: subjects presented for admission; mortality in freshman mathematics; distribution of matriculants by scholastic rank in high school and by size of high school; performance of freshmen in college mathematics according to amount and character of high school preparation in mathematics.

Vocational guidance. All or nearly all university and college teachers and administrators devote more or less attention to advising students regarding vocations in which they may be interested. Especially is this true in the professional schools. The choice of a vocation or profession

should be based upon authentic information regarding all of the fields under consideration. This kind of information can be obtained most effectively and conveniently through books and pamphlets which have been published for this purpose. Many such publications are available and the number is constantly increasing. In order that high school principals and advisers be able to refer their students who may be interested in engineering, architecture, or chemistry to books of this character, Professor A. S. Levens has prepared a "List of Publications for Vocational Guidance in Engineering, Architecture, and Chemistry" which has been published in pamphlet form for distribution, especially to high schools.

Supply and demand of graduates. For a number of years, educators and professional men have asked whether or not the professional schools are preparing more graduates to enter the respective professions than are needed or can be assimilated with satisfactory compensation. In general, this question has not been applied to the liberal arts colleges and the assumption has been made that there should be no limit to the spread of higher education, even though it were possible that college graduates might become so numerous that they would fill very subordinate positions or be engaged in menial occupations, on the principle probably that the higher education would be justified by the greater opportunity afforded for the enjoyment of leisure, the appreciation of knowledge, and participation in the duties of citizenship. Such an assumption is in no way inconsistent with the ideals of our democratic civilization.

The medical and legal professions have made studies on this subject and have proposed at various times to restrict the enrolment of students preparing for those professions. In engineering or technology, however, the conditions are quite different from those in law or medicine. Several years ago the National Industrial Conference Board made an investigation of the needs of industry for college trained engineers. The conclusion was reached that the output of the engineering colleges would have to be greatly increased if the needs of industry were to be met and that those needs were continually increasing. On the basis of this study, it would seem reasonable to believe that there is not likely to be any oversupply of technical graduates. As a general rule, up to this biennium, there has been no difficulty in placing these graduates in positions. The field has continually widened before them and they have been employed in some kinds of work hitherto untouched by professional engineers.

Under the existing circumstances of the depression, however, the prospects have been discouraging, as they have been for all other people in all walks of life. Therefore, the present condition should not be regarded as determining the answer to the question of supply and demand of technical graduates.

The engineering profession is unlike those of law, medicine, dentistry, etc., in that there is a very wide range of duties to be performed, from positions which require a minimum of technical preparation to those which demand the best training our colleges can afford supplemented by graduate work and extensive practical experience. Thus, there is a place for the partly prepared technical student

and room for those who are more fully prepared. There is little likelihood that the engineering field will be seriously overcrowded, even by men who have been only partly trained in college.

Another phase of this question lies in the fact that the professional courses in engineering are so broad in their fundamental training that graduates frequently enter lines of activity which are not directly concerned with engineering practice. Many engage in business occupations which, while not strictly technical in character, require an engineering foundation of knowledge and training. Then there is the great field of executive and administrative work from subordinate positions to those demanding the highest ability and generous experience.

Keeping in mind the importance of a broad training for the technical student, it is important that he be encouraged to elect, and that opportunities be offered for him to elect, fundamental courses in economics, accounting, management, business law, speech, etc.

Limitation of enrolment. It follows that the question of limitation of enrolment in engineering schools is usually answered from the standpoint of facilities and, therefore, finances, rather than from that of supply and demand of engineering graduates. The funds which can be made available for staff, buildings, and equipment will determine the maximum number of students for which these facilities for satisfactory instruction are adequate. If this number is not exceeded, there need be no limitation of enrolment. When this number is exceeded, however, and no additional funds are available, steps must be taken to reduce enrolment if the quality of instruction is to be maintained.

When the time arrives that a restriction in enrolment must be established, several methods are possible. The tuition, for example, may be increased to such a figure as to shut out some students. This method is objectionable, especially in a state university since it would restrict the opportunities for a college education.

The logical method of limiting enrolment, however, especially in a professional school, is to raise the standards of admission so as to increase the average of ability and promise in the student body. This, then, is an economic measure which makes a virtue of necessity inasmuch as the quality of instruction is improved and its efficiency is increased because the students of lower scholastic ability are not admitted and so do not have to be eliminated as the result of poor scholastic work during the earlier part of the college course. Considerations such as these resulted in the increased entrance requirements mentioned earlier in this report. A definite reduction in the college budget is effected while the standard of ability of the students is increased, failures should be diminished, and, in general, the quality of instruction and that of our graduates should be improved.

Administrative changes. For many years there has existed in the School of Chemistry a Division of Technological Chemistry with Dr. E. P. Harding as its chief. After the retirement of Dr. Harding in the fall of 1931 owing to ill health, a careful study was made of the courses in that division as well as the general needs in the other divisions of the School of Chemistry and it was decided to discontinue the Division of Technological Chemistry and to divide

its courses and staff between the Divisions of Chemical Engineering and Analytical Chemistry, giving to the former the work in power plant, fuel, and sanitary chemistry and to the latter, the work in the chemistry of foods. The change will effect administrative economy through the discontinuance of a division and will make possible certain advantageous readjustments in staff. This can be done without impairing the instruction in this field.

The death of Dr. W. H. Hunter, chief of the Division of Organic Chemistry, has resulted in certain staff changes. Special efforts have been necessary to minimize the effects of the very serious losses to the School of Chemistry occasioned by the death of Dr. Hunter and the retirement of Dr. Harding.

S.P.E.E. summer school for mathematics teachers. Under the joint auspices of the University of Minnesota and the Society for the Promotion of Engineering Education, a summer school for teachers of mathematics was held here in August and September, 1931. The undersigned was the local director of the session and Professor C. A. Herrick served as secretary. Eighty-nine teachers of various ranks attended the session. Sixty different institutions in thirty-three states and provinces were represented. The instruction staff was made up of nineteen prominent representatives of various fields of mathematical activity. This attendance was the largest of all the summer schools which had been held by the Society for the Promotion of Engi-

neering Education. Directly following this session, the Mathematical Association of America and the American Mathematical Society met here and thus a notable combination of mathematical meetings was available to all who could attend.

Public service. The usual co-operative services with the state and municipalities have been maintained. These include the engineering appraisal work for the Minnesota Tax Commission, the Motor Lamp Testing Laboratory for the Highway Department, and the laboratory facilities provided for the Highway Department. Among the additional services rendered by members of the staff during the past biennium the following may be mentioned: Professor J. D. Akerman has participated in the formulation of air navigation laws for the state of Minnesota. Professor Frederic Bass has served as chairman of a metropolitan drainage committee of engineers, and as chairman of a commission on the water supply of Minneapolis, and has been appointed a member of the State Board of Health. Professor A. S. Cutler was chairman of a special engineers' committee to study the problem of railroad and street grade separation in south Minneapolis. Professor C. A. Koepke has supervised job analysis studies for the Employment Stabilization Research Institute. Professor F. M. Mann has been president of the Minneapolis City Planning Commission.

Respectfully submitted,

O. M. LELAND, *Dean*

*The School of Mines and Metallurgy
and the Mines Experiment Station*

IN practical life we find two types of engineer, the "routine" or "handbook" engineer and the "genuine" engineer.

The "genuine" engineer, although familiar with the solution of problems in his field which have been solved in the past, is more concerned with the fundamental principles to the solution of new problems confronting him. He may derive hints from solutions which have been worked out in the past, but he is not dependent upon these solutions as he attacks the work at hand. In times such as the present he retains his position while others are laid off.

For many years the School of Mines and Metallurgy has been in close touch, through personal contact, with its graduates and their employers, and the truth of the above statements has been forcibly driven home. We believe that many of our students acquire the characteristics which distinguish the "genuine" engineer from the "routine" engineer.

W. R. Appleby, Dean
The School of Mines and Metallurgy

The School of Mines and Metallurgy

To the President of the University:

Sir: I herewith submit my report covering the biennial period of 1930-32.

During the past two years the faculty of the School of Mines and Metallurgy realized the difficulty that graduates of our institution would probably experience in obtaining positions. During this period no radical changes were made in curriculum but particular attention was given to the character of training offered young men in order to insure their usefulness in their profession, and as far as possible prepare them for permanent promising positions.

This phase of educational work particularly appealed to Mr. E. H. Comstock, chairman of our Students' Work Committee. He made a careful study of the situation, and while recently visiting the West with the junior students took occasion to confer with many of our alumni and with prominent operators. I have asked him to prepare for me a statement which I now present:

In practical life we find two types of engineer, the "routine" or "handbook" engineer and the "genuine" engineer.

Probably 75 per cent of the engineers fall into the first class. Most of them can do well that which they know how to do. When confronted with a problem with which they are unfamiliar, they must either find out how to attack it from someone else or from a handbook. If, perchance, the problem has never been solved, they are at a loss to know how to proceed. Unfortunately, the engineer is constantly being confronted with problems which have not been solved. The many excellent engineering handbooks on the market contain only information on the problems which have been solved and are useless, or nearly so, when a brand new problem presents itself.

The "genuine" engineer, although being familiar with the solution of problems in his field which have been solved in the past, is more concerned with the fundamental principles, and has acquired the ability to apply these fundamental principles to the solution of new problems confronting him. He may derive hints from solutions which have been worked out in the past, but he is not dependent upon these solutions as he attacks the work at hand. In times such as the present he retains his position while others are laid off. His employer recognizes the fact that it will be difficult to replace him when conditions improve. His employer also recognizes the fact that the country is flooded with engineers who can do the routine work and can do it well. The "routine" engineer is, therefore, the first to disappear when curtailment of operating expenses is necessary. There is no overproduction of "genuine" engineers.

For many years the School of Mines and Metallurgy has been in close touch, through personal contact, with its graduates and their employers, and the truth of the above statements has been forcibly driven home. Much

routine work must be done and students attending the school are thoroughly trained in this work. However, the school does not stop at this point, but endeavors to give each student a thorough grounding in the fundamental principles underlying his chosen field together with as much practice as possible in the application of these fundamental principles to the solution of problems. The result is that many of our students acquire the characteristics which distinguish the "genuine" engineer from the "routine" engineer.

Students entering the School of Mines and Metallurgy come from all walks of life and with all sorts of high school preparation. They may be divided into two groups. To the first group belong those who have already acquired considerable facility in the application of fundamental principles. To the second group belongs the large number of students who have never done much independent thinking. They could solve the problems if they could remember the way they had been presented by the instructor. In our school much special work out of regular class hours is devoted to assisting this second group to acquire the ability to apply fundamental principles to arrive at a solution. This special work has been applied to each subject of the curriculum. A student must learn that of these two operations, checking the approximation is the more important because if it is incorrect, it can be discarded and a new one made. The student must also learn that if properly carried out, the second method yields just as accurate results as can be obtained in problems to which the first method can be applied. Though approximation is involved in the method, there is no guesswork about the result.

School of Mines Experiment Station. Those who are connected with one of Minnesota's greatest industries are often asked the question, "How long will Minnesota continue to hold its own in producing iron ores?" This question is a very pertinent one because the state depends upon the iron mining industry for a large portion of its income. The life of the iron mines of this state is dependent on the reserve tonnages and the methods that may be applied for the treatment of low grade ores prior to smelting. There is a large tonnage of ore material that is being mined that is too low in iron to be marketable, yet many tons of this low grade ore are converted by special treatment into tons of marketable ore. Over one third of the tonnage of ore that is shipped to the lower lake ports is of this character.

The state wisely provided for the study of this important problem and made special appropriations for the support of the Mines Experiment Station for the purpose of conducting extensive experiments and studying the character of the various ore deposits.

The work carried on by the station has been very satisfactory and is responsible for a recognized increase

in the number of tons that are available for smelting purposes.

Mr. E. W. Davis, superintendent of the station, has given me a statement of the station's activities as follows:

The activities of the Mines Experiment Station are divided into two classes: direct state service work, and research work.

The state service work is carried on for the benefit of individuals or organizations that are interested in the mineral industry. This service ranges all the way from the examination and identification of small samples of rock or sand to large scale experimental test work on carload samples of ore. This work is done free of charge, provided that the mineral is found in the state of Minnesota. Several hundred samples come to the Experiment Station each year and a written report is furnished to the person or organization submitting each of these samples. A large part of the work of this station is in connection with the iron and manganese ores of the state, and usually several hundred tons of these materials are handled through the experimental equipment of this station each year. The importance of this experimental work is shown by the fact that the amount of ore that is beneficiated before shipment from the state has increased from 15 per cent in 1920 to 40 per cent in 1930. As the high grade ores are depleted, more and more ore requiring beneficiation must be utilized, which means more experimental work for the station, since beneficiation plants cannot be designed without an intimate knowledge of the nature of the ore that is to be treated. The appropriation for this state service work is included with the regular university appropriation, and comes to the Experiment Station through the regular university channels.

The research work of the station is carried on by funds specifically appropriated each two years for special investigations. By means of these funds, new processes and machines are designed, developed and investigated, looking toward better utilization of the mineral wealth of the state. In order that Minnesota shall maintain her supremacy as an iron ore producer, new processes and equipment must be developed to handle the lower grades of iron ore. That gratifying progress has been made along this line is illustrated by the fact that the Experiment Station is known wherever iron ore is being mined, and hardly an iron ore deposit is exploited any place in the world that some of the ore is not first sent to the Experiment Station for examination.

At the present time, several investigations are under way, looking toward the development of information that will increase the value of the enormous deposits of low grade iron ore in the state. This work is extremely important to the iron and steel industry of the United States and to the state of Minnesota, since the high grade ores are rapidly being depleted, and the ability of Minnesota to continue to produce ore of usable grades depends entirely upon the ability of the mining companies to utilize the low grade material which exists in the state in such enormous quantities.

In addition to the state service work, certain special activities provided for by the last legislature have been carried on during the past year. Work under the appropriation for low grade ore, amounting to \$38,000 per year, has been under the direction of Mr. John Craig, and after completing the work on the reverberatory smelting furnace, which has been under way for some time, an

investigation was started in connection with the magnetic roasting process. This is proceeding quite satisfactorily, and by the end of the summer (1932) we hope to have a satisfactory roasting furnace in operation for rather large scale work. The importance of this investigation is illustrated by the fact that a very large proportion of our low grade ores must be given magnetic roasting before they can be concentrated, and no satisfactory roasting furnace is available at this time for this kind of work.

Reverberatory smelting process. The smelting furnace that has been developed at the Experiment Station provides means by which fine ore may be converted into iron and steel without the use of metallurgical coke. As the concentration process develops for the utilization of the lower grade ore, the product that the mining companies ship becomes finer and finer. Blast furnaces cannot handle satisfactorily this fine ore, with the result that although this fine material may be of very high grade, it cannot be shipped to the blast furnaces. This is illustrated by the fact that there are very large stockpiles of fine ore on the Mesabi Range, containing over 60 per cent Fe, but which are of no value at the present time because of the presence of an excessive amount of fine ore. This new furnace has been designed, following to some extent the practice used for smelting fine copper ore. It is a reverberatory type of furnace, and pulverized coal or gas is used for heating purposes instead of the metallurgical coke required by the blast furnaces. The product from this furnace is called crude iron and can be converted into steel satisfactorily. Several hundred tons of this crude iron have been produced in the furnace at the Experiment Station, and fifty tons of this material were shipped to an eastern steel plant where this material was converted into steel and rolled into standard bars.

It was the expectation that arrangements would have been completed by this time for one of the large steel companies to construct a large furnace of this type and definitely prove its value. Unfortunately, due to the extreme depression in the steel industry, this final demonstration of the process must wait until business conditions improve.

Magnetic roasting process. A portion of the low grade ore on the Mesabi Range is magnetite. Magnetite is the oxide of iron that is sufficiently magnetic so that it can be picked up by a small hand magnet. By crushing this ore to the proper size, this magnetite can be efficiently removed by magnetic concentration with the production of very high grade concentrate. A large proportion of the low grade ore in this state, however, is hematite and is not magnetic and, therefore, this cheap and simple method of concentration cannot be used for this material. It is possible, however, by roasting this hematite to convert it to magnetite. For small scale work this is a very simple process, requiring very little fuel. However, for large scale production, such as is necessary in the iron ore industry, no satisfactory roasting furnace is available. The staff of the Experiment Station has undertaken consequently to develop a roasting furnace especially adapted to the magnetic roasting of iron ore. This roasting must be done at a cost less than fifty cents per ton, using the

low cost fuels that are available. Very satisfactory progress has been made in the development of this roasting furnace, and a furnace is now in operation at the Experiment Station which will roast about twenty-five tons per day. It is expected that this furnace will eventually be available for the roasting of large tonnages of low grade hematite ore at a cost that will make this method of treatment attractive.

Field work. An appropriation of \$7,000 was made for field work on the Minnesota iron ranges. This work has been under the direction of Mr. John Durfee, and is proceeding satisfactorily. During the past year, samples of the lower cherty formation have been secured throughout the length of the Mesabi Range, and these samples have been tested in the laboratory by various concentration methods, and have also been examined petrographically. The work is about completed on this horizon, and during the coming summer, samples of the upper cherty horizon will be secured and the same investigations made. Then, if the appropriation can be continued, we will sample both the lower slaty and the upper slaty horizons, thus giving a complete picture of the concentrating possibilities of the Mesabi Range iron formation. The importance of this work is illustrated by the fact that from these four horizons our future iron ore must come. In this connection, I might say that much of the ore in these horizons must be roasted and concentrated magnetically. This makes it important for us to have a satisfactory roasting furnace, which is now being developed.

STATE SERVICE TESTS	1930-31		1931-32	
	NUMBER TESTS	GROSS WEIGHT	NUMBER TESTS	GROSS WEIGHT
a. Large scale tests ($\frac{1}{2}$ ton or more)	38	2,056 tons	19	496 tons
b. Small scale tests (less than $\frac{1}{2}$ ton)	45	3,760 lbs.	96	7,575 lbs.
c. Samples submitted for assay and examination	304		345	
d. Samples referred to other departments	8		4	

Assays. The total number of assays made in connection with all work at the Mines Experiment Station during the past year was 28,026.

Publications. *Mining Directory of Minnesota for 1932.* Attention is called to the fact that some of the time of the staff of the Mines Experiment Station, which is normally working on state service work, has been spent in connection with research activities.

United States Bureau of Mines

The University of Minnesota, appreciating the importance of scientific work on ores of the state, entered into a co-operative agreement with the United States Bureau of Mines for a government station to be located on the campus. This station has been in operation continuously since the fall of 1917 and is housed in the Mines Experiment Station building. By the arrangement above described two bodies of technically trained men are available for the study of the treatment of the iron and manganese-

ous ore deposits. Mr. T. L. Joseph, supervising engineer of the North Central Station of the U. S. Bureau of Mines, describes the work of his station as follows:

Manganese problem. From 90 to 95 per cent of the manganese ore used in producing ferromanganese, essential to our iron and steel industry, is imported because domestic deposits are small, irregular, and located at remote distances from steel centers. The degree of our dependence upon future importations will be governed by the success achieved in developing processes by which ferromanganese can be produced from domestic reserves of low grade ores. Minnesota deposits are recognized as an important potential reserve of manganese.

The equipment and funds available through the co-operation of the University of Minnesota and the North Central Experiment Station of the United States Bureau of Mines have made it possible to develop a process for producing ferromanganese, the 80 per cent alloy, from Minnesota ores containing only 8 per cent manganese. Several hundred tons of the crude ore, which was smelted in an experimental blast furnace, yielded more than 100 tons of an alloy containing about 15 per cent manganese, 0.5 per cent phosphorus, and 80 per cent iron. The manganese was then separated from the iron and phosphorus and was recovered in the form of a slag containing 50 per cent manganese. This was produced in small open-hearth and small electric furnaces, similar in design and operation to industrial units of this type.

The artificial manganese ore was finally smelted in the experimental blast furnace. About 15 tons of ferromanganese were produced during the course of 30 days' continuous operation. The scale of operations used in the various steps demonstrates the workability of the process.

Size preparation of iron ores. A producer of pig iron recently stated that the experience of operators and the results of numerous investigations have shown that the physical properties of the materials entering the blast furnace have as much bearing on the efficiency of the process as the chemical properties of these materials.

Proper size preparation of iron ore involves crushing the coarse pieces to a size that will permit deoxidation in the upper part of the furnace. Fine ores should be agglomerated. The time required to deoxidize various ores and agglomerates, such as sinter and briquets, under various conditions is being investigated so as to arrive at the proper degree of crushing and the most advantageous type of agglomerate.

The extension of beneficiating processes is producing more fine material which is being absorbed with difficulty by the untreated ore which is itself of fine structure. Improvements in methods of agglomeration and more effective size preparation are important phases of the general problem of iron ore beneficiation.

Service to the Minnesota Tax Commission

On December 20, 1909, the question of properly taxing the iron ores of Minnesota arose with the then newly appointed Tax Commission. In order properly to check the estimates made by the various companies the commissioners requested that the Board of Regents authorize the School of Mines and Metallurgy to carry on this work for them.

Mr. E. M. Lambert is in charge of the work, assisted by Mr. L. S. Heilig. Mr. Lambert's report from September 1, 1928 to August 31, 1930 to the Tax Commission is

presented to give an idea of the character and amount of work done.

Object. The ore estimates, as checked and submitted, are used as a basis for the valuation of mineral properties in the state of Minnesota.

Services. During the period in question the School of Mines and Metallurgy made reports to the Tax Commission on a total of 129 properties. A total of 279,975,693 tons of bessemer, non-bessemer, and manganiferous iron ores is involved in these reports. Of these 129 properties 10 were estimated by us for the first time. On these new properties, most of which are barren or contain small bodies of ore contiguous to heretofore known large bodies, we reported 1,895,247 tons of merchantable ore. On 11 properties our reports showed either negative results or ore of a non-merchantable nature. Twenty-two reports were in the form of letters giving technical information of various kinds, depending upon requests.

Among the above mentioned 129 properties reported, 73 show a net increase of 87,069,138 tons, while 20 show a net loss of 8,590,615 tons. The two years' work shows a net gain of 78,478,523 tons. These changes are due to new exploration work, development, reclassification, and advancement in beneficiating methods.

In addition to the above tonnage, we reported 14,899,519 tons of non-merchantable ore. Factors in determining merchantability are many. The factor involving the greatest tonnage, however, is that of beneficiation. Entirely new processes, and improvements in existing processes when developed will go far to reclaim millions of tons of ore now held in reserve as non-merchantable, as well as immense tonnages now in lean ore stockpiles.

The following factors—low iron, high silica, high alumina, and high percentage of fines—determine whether or not an ore is merchantable. Any one of these factors, or a combination of them, may cause the ore to be rejected, or, if accepted, the penalties inflicted may make the mining of the ore unprofitable.

The washing process is the oldest of the beneficiation processes in use in the mining industry in Minnesota and still accounts for almost the entire tonnage of strictly beneficiated ore.

In washing the high grade ores, it is easy to remove some of the objectionable silica, decreasing it approximately from 30 per cent to 8 per cent and increasing the iron approximately from 45 per cent to 58 per cent. About 65 per cent of the original ore is recovered. As this type of ore was being depleted in a deposit, leaner ore was encountered and it became increasingly difficult to make a separation and the silica content in the concentrate increased. The first step to further expedite the separation was crushing the ore to a fairly small size before washing, thus liberating more of the free sand. It next became necessary to treat ores in which the silica did not all occur as sand but as bands of lean ore alternating with bands of high grade ore. The jiggling process was then introduced. Again the difference in specific gravity between the lean and high grade ore bands is the basis of separation, and water again is the medium.

There were 22 washing plants in operation in the state in 1929 producing 5,874,028 tons of concentrate, or 12.37 per cent of the total tonnage shipped. Three jigging plants were in operation but the tonnage of concentrates produced by this process alone was comparatively small. Much experimental work has been done and is still being

carried on. The next ten years will probably see many jigs installed for primary and auxiliary treatments.

The drying process is a simple process of removing a portion of the excess moisture from the crude ore. It is accomplished by passing the ore through a rotating inclined kiln, the ore moving downward in contact with an ascending blast of heated air and gases from a furnace. The removal of too much moisture may result in an excessive amount of dust.

Two drying plants, one on the Mesabi Range, and one on the Cuyuna Range, in 1929 produced 341,759 tons of ore.

Some ores containing a large percentage of very fine material, high moisture, high ignition loss or a combination of these conditions may be improved by the sintering process. This process consists of crushing the ore, mixing it with pulverized coke or coal, placing the mixture on a traveling grate, igniting the fuel, and burning it by means of air drawn through the bed. A coarse, porous clinker or sinter is produced. The structure and chemical composition are both improved, the product having a very high natural iron content compared with the crude ore.

Only one sintering plant was in operation in 1929, having produced 212,136 tons of sintered ore. A second sintering plant was put into operation at the Bruce Mine at Chisholm in 1930. Reports as to the desirability of the sinter for the blast furnace seem to be conflicting but the preponderance of opinion seems to be favorable.

There is an immense tonnage of low grade iron ore in which the iron occurs as a magnetic mineral which can be separated from the silica gangue by magnetic attraction after the ore has been ground very fine. After the separation has been made, the objections to the fine structure are overcome by an auxiliary sintering process. Such a plant as this is established at Babbitt but is not in operation at the present. Price of iron ores will not permit of so costly a process.

Crushing and screening ore is sometimes referred to as a beneficiation process. However, the object is not to eliminate any objectionable constituents from the ore, but is merely to crush the ore so that all the material will pass through a given size screen. This operation produces a better mixed ore with a more uniform structure. The greater part of the ore now crushed was formerly shipped as mined. This crushing and screening should not be confounded with the crushing and screening to which wash and jig ores are subjected as a preliminary step to the beneficiation.

In 1929 there were several crushing plants in operation. A total of 9,455,553 tons of ore was crushed and screened in 1929. If the crushing be considered as a process of beneficiation instead of a preliminary step to smelting, a total of 15,979,403 tons were treated in 1929. This is 33.66 per cent of the total shipments.

That the beneficiation of the low grade ores is receiving more attention from year to year is evidenced by the increasing number of demands made on the School of Mines Experiment Station for tests. The legislature has recognized the importance of this work and has deemed it wise to make special appropriations to carry it on. These tests are made without cost to the mining companies, the state being amply repaid by increase in revenues derived from royalties, and taxes on the additions to the ore reserves.

Field trips. Ten trips, requiring 35 days of field work, were taken to the various mining districts of the state by

two men. The field work consisted of the inspection of properties, the securing of data, consultations with the mining officials, and the reviewing of their estimates.

Two men devoted their entire time during the six summer months of the biennium, while one man devoted full time for an additional month and part time for fourteen months to carry on the field and office work necessary to the completion of our reports.

The methods employed by us in checking the estimates of the mine operators are in accordance with the standard

practice in vogue in the particular district in which the property is located.

It is obvious that a large amount of field work is essential for the successful consummation of our duties. This is necessary in order that we may make a personal inspection of the properties and mining conditions, that the estimates may be studied and discussed in detail with the proper authorities, and that our staff keep in touch with the mining industry and its progress in general.

Respectfully submitted,

W. R. APPLEBY, *Dean*

THREE is yet no co-ordinated program for the education of public school workers in the state of Minnesota. The University, the several liberal arts colleges, and the six state teachers colleges each pursues its own way in attempting to meet the public school need. So long as there was a dearth of competent workers this situation did not cause embarrassment to college graduates, to the teaching profession, nor to the public schools. Nor did it make unnecessary demands upon the public funds. Under present conditions, however, not only are college graduates finding themselves trained for positions which do not exist, but the institutions themselves are at a point where their own activities will result not alone in confusion and embarrassment to themselves, but in a waste of college and public funds. It seems important that steps should be taken to work out for the state of Minnesota a co-ordinated program in the field of educating teachers—a program in which each institution will find its peculiar and limited function. We shall otherwise find public school teaching in Minnesota the victim of the random and individualistic tendencies of the several institutions.

It would be a wise procedure if the state legislature should at its next session, create a commission to study this problem. Such a commission should be empowered to invite the services of recognized experts in the field of higher education and instructed to formulate a state program upon the basis of factual information and sound principles of public administration. The cost of such an investigation would be trifling in comparison to the annual expenditure of public funds for the education of teachers. More important than savings in the expenditure of public monies would be the achievement of a sound program for the administration of the institutions of higher education within the state.

M. E. Haggerty, Dean
The College of Education

The College of Education

To the President of the University:

Sir: I have the honor to report as follows for the College of Education for the biennium 1930-32.

The demand for education graduates. New problems for the College of Education have been created by the changed conditions of employment developed throughout the country and in Minnesota, in particular, during the current depression. In terms of state certification laws a surplus of men and women qualified for educational work in the state of Minnesota is apparent. The degree to which this surplus would have resulted under the economic conditions prevailing up to 1929 is not easy of determination since the problem is complicated by changed economic conditions which have created problems of unemployment in a wide range of fields other than education.

For many years there has been an annual exodus of employed teachers into other fields of endeavor. Many men and women gave up teaching to undertake work in law, medicine, engineering, and business. Women have surrendered their teaching positions in anticipation of or subsequent to matrimony. This exodus, amounting annually to about 15 per cent of the teaching population created vacancies to be filled by newly trained teachers. In addition to these factors the rapid growth of enrolment in all public schools, including colleges, has called for an annual step up in the total number of employed teachers. Along with these conditions states have continuously increased the educational requirements for certification, and boards of education rapidly increased teacher's salaries. Thus, for a quarter of a century or more the annual demand for newly trained young men and women to enter the teaching profession was rapidly enlarged. During the period when these conditions prevailed, the graduates of the College of Education found employment easy. As a matter of fact, during the period immediately after the Great War it was not possible to supply to the schools of Minnesota a sufficient number of properly certificated college graduates to fill the vacancies annually created. These conditions of almost certain employment for any college graduate meeting certification requirements, along with attractive salaries, stimulated very greatly the enrolment of students in the College of Education and in other colleges in this and other states. Up to 1929 this growth in enrolment in institutions educating teachers was not sufficiently great to be embarrassing either to the institutions or to their graduates.

The cataclysm of 1929 with its devastating disturbance of employment in all fields has sharply altered the situation affecting teaching. The exodus from the teaching field gradually lessened with the onset of the depression and became almost nil with the present year; the enlargement of demand due to increased public school enrolments was minimized due to administrative changes in the public

schools themselves; and large numbers of former teachers who found themselves stranded in other employments returned to teaching as a more certain means of income. At the same time college enrolments in education have continued to increase. Not only has the number of regularly enrolled education students increased, but graduates in business, law, and engineering have sought the technical qualifications for certification as teachers. Institutions educating teachers, therefore, have suddenly been plunged into the situation of graduating many competent and well-trained young people who cannot find employment in the fields for which they have been trained.

The degree to which these conditions of employment will be changed with economic recovery is not possible of determination at this time. Whether we shall return within a few years to the place where, as formerly, an increasing number of graduates of higher institutions are annually demanded in the schools must await developments in the years immediately ahead. With economic recovery achieved, it may be found that all of the students preparing to become teachers will be called for in the schools of this and neighboring states. On the other hand we may discover that more young men and women are in training for educational positions than can be absorbed in the schools even under the more normal conditions of industrial prosperity.

The incidence of this general economic situation as it affects the College of Education of the University of Minnesota has been complicated by a number of developments outside the institution itself. In the first place, all of the liberal arts colleges of the state have grown in enrolments and in the number of their graduates who desire to become teachers. In addition to this the six state teachers colleges, during the period, have been authorized by the state legislature and by the teachers college board to qualify their graduates for teaching in the high schools of the state, the teaching field to which the University throughout its history has directed the major number of its own students. The congestion of surplus teachers has thus become peculiarly acute in the field of secondary education greatly to the embarrassment of the University, to the liberal arts colleges of the state, and certainly to the teachers colleges which for many years had confined themselves to the preparation of teachers for the elementary schools.

Local studies of teacher demand. The incidence of the public school demand for the services of its graduates has long been the concern of the administration of this college. In theory, at least, the proper function of the college and the character and range of its activities could be determined and limited if this demand were adequately described. Since 1920 we have promoted a series of investigations directed to this end. The net outcome of these studies is far from conclusive since conditions in the state

have changed rapidly and at times in wholly unpredictable ways.

The first study was made by Mr. R. B. McLean, now president of the Moorhead State Teachers College but at the time of his study a graduate student in the University of Minnesota. Mr. McLean's study was but the beginning of our attempts to determine in an objective fashion the number of graduates which this University should prepare annually to meet the demand in Minnesota public schools. In 1921 this office made an investigation which was much more detailed than Mr. McLean's of the demand in the various academic teaching fields. A complete analysis was made of teachers' records in the office of the State Department of Education. This study revealed the number of new teachers demanded in the year immediately following in each of the major fields of educational work—high school academic teaching, the teaching of special subjects, elementary teaching, and administrative positions. Had conditions remained static we would have had one criterion against which to gauge the scope of our own activities. Rapid and unanticipated changes made the data derived a less secure basis for shaping our own policy than was desired.

This study was followed by one by Dr. Percival W. Hutson in 1925, then a graduate student here, and now of the University of Pittsburgh. Dr. Hutson's study made an immediate inquiry as to the relationship between the subjects which teachers had studied in college and the subjects which they were then teaching in the high schools of this state. It revealed a strange discordance between preparation and activities and showed hundreds of individuals engaged in teaching subjects for which they had had little or no preparation. While this investigation pointed to some conditions which could only be remedied in the schools themselves, it also called attention to the necessity of greater breadth in the undergraduate preparation of prospective teachers, a condition which we at once undertook to remedy.

More recently Dr. A. V. Overn, formerly a graduate student here and now of the University of North Dakota, made extended studies from the records of the State Department of Education attempting to determine the trends of demand over a ten-year period, 1920-30. This analysis, which is the most exhaustive study of teacher demand which has been made in any state, is now published in book form by the University of Minnesota Press and greatly increases our knowledge of the proper function of the University in teacher preparation.

In this investigation Dr. Overn was able to describe the trend of demand over the ten-year period for each type of educational position comprehended in the University's program of teacher education. He shows the changing demand in each type of public school position, the tendency for positions to be filled by graduates of the University, of the liberal arts colleges, and of the state teachers colleges. Could all of these institutions combine in a close-knit and properly allocated state program, Dr. Overn's study would furnish a solid basis of facts upon which to build an adequate scheme for the higher education

of teachers, fitting the supply to the demand and obviating the present and impending surplus in the teacher market. Such a program seems necessary if the profession of teaching in the state of Minnesota is to escape the degrading embarrassment certain to trail in the wake of present tendencies in our higher institutions.

During the current year still further studies are under way with a view to determining the degree to which changed conditions have affected and will affect the teacher demand in Minnesota. These current studies will eventuate in at least one Doctor's and a half dozen or more Master's theses dealing with various phases of this problem.

By all these investigations we are seeking to establish in as objective a fashion as possible the peculiar function of the College of Education of the University of Minnesota in supplying the demand for public school workers in this state. The net result of all these investigations may be stated in general terms as follows:

1. In normal times such as prevailed in the first decade immediately following the close of the Great War there is an annual demand for new public school workers in the state of Minnesota approximating 900.
2. Institutions in this state training young people to meet this demand are the University of Minnesota, twelve liberal arts colleges, and six state teachers colleges.
3. The greatest service of the University of Minnesota lies in the preparation of teachers for secondary schools, in the education, particularly the advanced education, of secondary teachers, school administrators, special teachers, and research workers.
4. At the present time there is an apparent excess of qualified persons, as measured by state certification requirements, being trained by the several institutions in the state.
5. Large numbers of teachers meeting certification requirements in the schools are inadequately trained in subject-matter when measured by first-rate standards of qualification.
6. Still further and more comprehensive investigations are needed to provide an adequate body of factual knowledge upon which to build a wise state program of higher education in the state of Minnesota.
7. There is yet no co-ordinated program for the education of public school workers in the state of Minnesota. The University, the several liberal arts colleges, and the six state teachers colleges each pursues its own way in attempting to meet the public school need. So long as there was a dearth of competent workers this situation did not cause embarrassment to college graduates, to the teaching profession, nor to the public schools. Nor did it make unnecessary demands upon the public funds. Under present conditions, however, not only are college graduates finding themselves trained for positions which do not exist, but the institutions themselves are at a point where their own activities will result not alone in confusion and embarrassment to themselves, but in a waste of college and public funds. It seems important that steps should be taken to work out for the state of Minnesota a co-ordinated program in the field of educating teachers—a program in which each institution will find its peculiar and limited function. We shall otherwise find public school teaching in Minnesota the victim of the random and individualistic tendencies of the several institutions.

It would be a wise procedure if the state legislature should at its next session create a commission to study this problem. Such a commission should be empowered to invite the services of recognized experts in the field of higher education and instructed to formulate a state program upon the basis of factual information and sound principles of public administration. The cost of such an investigation would be trifling in comparison to the annual expenditure of public funds for the education of teachers. More important than savings in the expenditure of public monies would be the achievement of a sound program for the administration of the institutions of higher education within the state.

The limitation of enrolment. A number of factors in the present situation point to the possible desirability of limiting enrolment in the College of Education. Two of these weigh more heavily in most discussions of the problem than any others. The argument most commonly advanced for such action is the recognized desirability for superior minds in educational work; the second is the prevailing numbers of unemployed college graduates who meet all the legal qualifications for teaching.

No single problem, aside from instruction, has occupied the collective interest of the faculty over a period of years more than that of attracting and selecting competent young people whose interests and abilities give promise of their becoming successful teachers. The intricacy and the difficulty of the problem are evidenced by the fact that we still seem far from any thoroughly dependable means of determining which of all the thousands of young people presenting themselves for training will certainly fulfill any program of prognosis. The use of psychological examinations and other measures of competence and achievement have been employed in varied ways with College of Education students since 1915. The researches based upon the data thus derived and upon other available information have greatly enlarged our understanding of the problems even though they fall short of providing accurate methods for the prediction of future competence on the part of students. The baffling character of the problem of forecasting the future competence of such students is, of course, but a counterpart of the whole problem of foreseeing the lines of development which human nature follows.

It may be pointed out that rather considerable barriers to entrance to the College of Education have always been enforced. In the first place, entrance to the University itself has been conditioned upon the satisfactory completion of work in a standard high school involving the pursuit of a particular pattern of academic high school instruction. Further, the satisfactory completion of two years of university work involving a particular pattern of courses in the Lower Division and the achievement of a relatively high scholastic standing in the courses pursued has long been a prerequisite for the entrance of academic students into the College of Education at the beginning of the junior year. The prescription of specific courses to be completed in major and minor requirements and the relatively high requirement of a C+ average in the major field have been further selective agencies designed to guarantee high ability in College of Education graduates.

What is here indicated as relating to academic majors is, to a degree, true also of those groups of students who enter the College of Education at the beginning of the freshman year but who must complete correspondingly severe requirements before admission to the junior year of the four-year program. There can be little doubt that the selective influence of such requirements, together with the elaborate counseling system which has grown up, goes far to guarantee a distinctly superior body of students in the advanced years of the College of Education.

Even with these restrictive measures fully enforced it is apparent that some students meet all the technical scholastic requirements laid down but who do so in a purely marginal way. Every commencement season reveals a group of students deficient in honor points and others who seek substitution of elective for required courses in their major curricula to ease the road of graduation. Even among those about whose scholastic achievement there is no question are some who seem by personal qualities to be poorly fitted to undertake the exacting work of teaching. Personality defects, frequently occurring in the most intellectually competent individuals, operate to prevent the highest success in teaching, and in some cases are clearly the causes of failure.

A long series of researches centering about this problem has been encouraged by this faculty. Among these, distinct note should be made of the following faculty studies and student theses dealing with the prediction of teaching success.

- Industrial and Vocational Teacher Training, by Homer J. Smith
- Teachers' Estimates of Pupils' Intelligence, by G. F. Varner
- A Study of the Training of High School Teachers of Minnesota, by P. W. Hutson
- The Special Provisions Made by Colleges and Normal Schools for the Training of Junior High School Teachers, by W. H. Gaumnitz
- The Selection of Students for Teacher-Training Departments in the High Schools of Minnesota, by E. M. Dougherty
- Characteristics of Student Teachers of Different Departments, by E. A. Hawkinson
- The Intelligence, Preparation, and Teaching Skill of State Normal School Graduates in the United States, by F. L. Whitney
- A Study of the Relation of Intelligence, Marks in Academic and Professional Courses, and Success in Practice Teaching, by Sister Mary Helen Kranz
- Programs of Studies and Training of Teachers in Private and Public Secondary Schools of Minnesota, by Gordon N. Mackenzie
- Supervisory Needs of Teachers of Geography, by Lucy R. Cadwell
- Classroom Difficulties of Student Teachers, by E. M. Hanson
- The Specialized Preparation of High School Teachers for Content of the Subjects They Teach, by G. O. Millbrook
- Methods of Student-Teacher Ratings, by Harl R. Douglass
- Self-Evaluation Guide for Teachers of Agriculture, by A. M. Field

Practice Exercises for Learning to Rate Teaching Skill and Methods, by L. J. Brueckner
 Scales for the Rating of Teaching Skill, by L. J. Brueckner
 Rating Scale for Teachers, by Clara M. Brown and others.

While these studies have been going forward at the University of Minnesota, other investigations have been carried forward in other institutions and we have sought to avail ourselves of aid from every such source. The net outcome of these investigations is admittedly far from satisfactory. We are still without any accurate and dependable technique that may be used as a selective agency in the limitation of enrolment. Despite the unsatisfactory character of our investigations, however, we have during the past year created from our faculty a new committee on the limitation of enrolment which is instructed to give further consideration to the problem. Assistant Dean Harold Benjamin is chairman of this committee, the other members of which are Professors C. W. Boardman, A. C. Eurich, W. S. Miller, and J. G. Umstated. It is understood that the function of this committee will be primarily that of further systematizing such research materials as are now available and of promoting continuing investigation of the problem.

In reference to the existence of a large body of unemployed teachers at the present time it may be pointed out that action by the University of Minnesota alone will not be sufficient greatly to affect this situation. Even in the state of Minnesota there are eighteen other institutions whose activities in the preparation of teachers more or less parallel the University's, and the state of Minnesota is surrounded by a group of states in which conditions more or less akin to our own prevail at the present time. It would be essential, for the control of any surplus of teachers that there should be a unified and closely organized effort on the part of the institutions in all these states looking to limitations of enrolment. So large a number of institutions in all this territory are now technically equipped to educate teachers that action by a single institution will make little impression on the total situation. Education in this respect faces conditions distinctly different from those prevailing in law, medicine, business, engineering, and agriculture where the number of available training institutions is distinctly smaller and where national organizations interested in the limitation of student enrolments exercise greater influence. As a matter of fact, it is difficult to see how a satisfactory control of limitation of students preparing to become teachers can be carried forward except as a national enterprise, so easy is the migration of certificated teachers from one geographical area to another.

One of the frequently proffered means for limitation of enrolment is the employment of psychological examinations, particularly those of the type called intelligence tests. Superficial thought in this matter assumes that if students fall below a particular score on individual examinations or upon such examinations combined with scores and measures in other fields, a satisfactory means of the

limitation of enrolment would be at hand. The problem, however, is by no means so easy as this argument would make it appear. The situation is altogether too complex for any such simple administrative handling as is thus suggested. In the first place, the relationship between any defined measure of intelligence and scholastic achievement is not particularly great. Even though such tests would serve to prevent entrance into the College of Education on the part of those of distinctly inferior ability, the result would not be greatly different from that now achieved by the restrictions upon admission described above as already in force. The least competent students are already prevented from entrance to the college by the curriculum requirement which they are forced to meet.

A second embarrassing fact from this point of view is the failure on the part of most investigations to reveal any great relationship between intelligence on the one hand and teaching success on the other. It would appear that above the level of minimum intelligence now required to hurdle the scholastic barriers set up for entrance to the college, the differences in intelligence are less important than are other factors, not the least of which are industry, interest in the tasks of instruction, and social sympathy and understanding.

Our investigations further reveal that the levels of intelligence requisite to scholastic achievement vary from one academic field to another. It is perfectly apparent from the results of our measurement program that the intellectual competence called for in the field of mathematics is greater than that required in any other field, and that required intellectual ability is distinctly lower in certain of the specialized fields such as music and art. In support of this statement a table is here presented showing the median intelligence scores and honor point ratios for the graduates in a number of the specialized curricula offered in the College of Education. Even a casual inspection of this table reveals wide differences in ability necessary to complete successfully the university requirements in the several fields and the undesirability at present of fixing a uniform intelligence requirement for prospective teachers in all fields.

RECORDS OF GRADUATES IN VARIOUS MAJOR GROUPS
 IN THE COLLEGE OF EDUCATION. MEDIAN TEST
 SCORES AND HONOR POINT RATIOS IN
 SCHOLASTIC ACHIEVEMENT

	HONOR POINT RATIOS IN			
	PERCENTILE TEST SCORES	All Subjects	Major Subjects	Academic Subjects
English	69.1	1.52	1.69	1.54
Mathematics	68.0	1.80	1.78	2.00
Modern language	67.5	1.64	1.98	1.43
Latin	61.0	1.52	1.95	1.55
History	47.7	1.47	1.70	1.34
Social science	66.4	1.66	1.66	1.62
Biological science	60.0	1.64	2.10	1.38
Physical science	80.0	1.53	1.65	1.50
Art	40.0	1.39	1.55	1.11
Commercial education	60.0	1.48	1.79	1.53
Home economics	43.8	1.32	1.44	1.13
Physical education	40.0	1.31	1.75	1.11
Music	31.4	1.41	1.69	1.06

Five-year curriculum for the education of teachers. We have long been aware that the four-year college period is too brief for the adequate education of teachers, particularly for those who seek service in secondary school teaching and in administrative positions. Conditions of employment have been such, however, that the four-year course leading to a Bachelor's degree has been about the maximum that could be enforced by state certification agencies or that could be encouraged by higher institutions beyond certification requirements. Apparently the time has now come when, because of the oversupply of teachers and the rather favorable economic status of teaching at the present time, the period of training can be extended, at least, for a limited number of individuals. As a matter of fact, a growing number of students has already gone on to the fifth year of training either immediately after receiving the Bachelor's degree or after one or more years of teaching experience. Should the present economic status of teaching continue and the supply of interested persons increase, a fifth year of training will rapidly become a possibility for secondary school teaching. In fact, it is already required for new teachers in a considerable number of the larger cities of the country and in at least one state. Other cities which do not make the fifth year a definite requirement reward such additional training by increased salary for the Master's degree.

The extension of the period of training has long been considered by the faculty of this college, and certain principles for such development have been worked out. These have been discussed in an extended memorandum prepared and considered by the faculty during the past academic year. While it is not possible here to report this memorandum in detail, attention may be called to certain principles there stated.

1. Training beyond the Bachelor's degree is already a requisite for young men and women entering administrative positions and other positions of educational leadership in Minnesota.

2. Competent high school teachers should have a broader and more thorough academic education than is provided in the present four-year curriculum.

3. Under conditions prevailing in Minnesota schools, where most of our graduates are employed, students should be prepared to undertake instruction in more than one academic field. This means that the academic training should not be specialized in a single department but that the student should carry courses beyond the elementary level in two or more departments. The emphasis in the five-year period should be upon general erudition and broad scholarship rather than upon narrow specialization and the techniques of research.

4. The work in education should be reorganized, better integrated, and should proceed to more advanced levels than is now possible, but should not be greatly increased in amount.

5. Provision should be made in the five-year program for more intimate and a more independent contact with classroom instruction and other types of educational work than is now possible in the four-year curriculum.

6. The present four-year curriculum should be continued. Students should be encouraged to enter the five-

year curriculum by the greater opportunities for training and the increased prospects for employment.

In pursuit of a policy of developing a five-year program committees have been created composed of individuals giving instruction in academic work and in education courses. One such committee has worked on a possible program in the field of the Romance languages. Another has worked on a possible five-year program in English, a third in music, and a fourth in physical education. The tentative proposals made by the committees already existent are regarded as first steps toward a better solution of the problem of adequately educating public school workers. Other committees will be created next year to study the working out of this proposal in connection with other subject-matter fields. It is hoped that a working program complete in its major outlines will be ready for adoption before the close of the next academic year.

Lectures on Foundations of Educational Thinking. Recent conditions in the world have called attention to the need for a broader understanding on the part of citizens of the forces which operate in modern life. The confusion and ignorance which have clustered about the solution of current problems but emphasize a situation for a long time clear to acute observers of conditions. It is apparent that there is needed a wider understanding of the natural and social forces about which modern civilization builds itself and a more profound comprehension of knowledge which has extended and become so greatly complicated in recent years. This situation points to the necessity of a broader fundamental education for teachers, and, even more, for all those persons who essay the rôle of educational leadership either in small communities in the state or in the nation at large.

With this in mind we have during the past two summers conducted a series of lectures under the title "Foundations of Educational Thinking." The series of 1931 dealt with new knowledge in the biological, psychological, and mathematical sciences and the bearings of this knowledge upon educational thought. The series in 1932 has dealt with modern developments in sociology, economics, political science, and business administration. It is hoped to conduct a third series in the year 1933 dealing with problems in comparative education, bringing to our own students the trends of educational thought throughout the world, particularly as worked out in those nations of like interest and purpose to our own. The purpose of these several series of lectures is to lay out the pattern of modern knowledge with which a student of education should be familiar, the knowledge which should form the substratum for his thinking about the educational problems which he confronts. In planning these lectures we have supplemented our own faculty with other major professors in the University of Minnesota and have called to the institution other distinguished scholars from America and abroad. In this way we have sought to place our advanced students in touch with the very sources of learning in all those areas of knowledge contiguous to modern educational thought.

Student guidance. In my report for the biennium 1928-30, pages 331 and following, a description of the

program of student guidance in the College of Education was outlined. This report covered a statement of the problems of guidance, the provision for advisers and counselors, the publication of a guidance monograph for the faculty, and a brief resumé of studies by Dr. Willard C. Olson, Dr. Victor Noll, and Dr. Homer Smith. The general plan of student guidance there outlined has been continued during the current biennium. With experience on the part of the faculty in this new program and with additional scientific information concerning the problems of guidance, the service to students has improved in quality and has considerably extended in amount. There is a growing confidence on the part of the faculty as to the methods being pursued, and an increased recognition of the importance of student counseling as a phase of educational training.

The resignation of Dr. Helen Bragdon at the close of the academic year 1930 withdrew from the University of Minnesota her services at a time when they were becoming highly important. Her original appointment as assistant professor in 1928 had been made for the purpose of improving our counseling service, particularly that for women students. Her time was divided about equally between instruction and counseling activities. In her two years of service she had obtained an understanding of local conditions, had gained the confidence of faculty and students, and along with others had brought about marked improvement in our counseling services. Her resignation was the result of an invitation to become the dean at the Woman's College at the University of Rochester, an opening attractive in its possibilities and remuneratively beyond our means of competition.

The vacancy created by Miss Bragdon's resignation was filled by the appointment of Miss Ruth Merrill, assistant dean at Radcliffe College, on a three-fifths time basis. Miss Merrill has now been at the University of Minnesota two years and has very ably succeeded to the work which Dr. Bragdon had begun. With her services and the continued activities of Dr. Dora V. Smith, along with those of other members of the faculty, our counseling services to women students have continued to improve. It is our belief that these students are being more satisfactorily directed to those fields of educational work in which they will serve with the greatest competence. They are given more satisfactory aid in personal problems and are better directed in their social education. The increased helpfulness provided by these efforts at guidance has also resulted in a greatly improved attitude on the part of students, and a consequently better educational program for them.

With so large a body of counselors, approximately fifty, a number of problems arise from the diverse methods pursued by different individuals and the need for a comprehensive and integrated program of counseling is apparent. In the solution of these problems considerable progress has been made but it is recognized that much remains yet to be accomplished. It is believed that the main outlines of the guidance program are sound and that

fundamental principles of counseling are gradually emerging from our efforts in this direction.

Competence in the use of English. A widespread attitude prevails that college students, and in fact, teachers in schools are deficient in their command of English expression. Whatever reality this belief represents exists despite the fact that at the University of Minnesota all students planning to become teachers are required to pursue courses in English composition or to show such competence as freshmen that they may be excused by the English Department from the course requirement. Whatever effect this freshman requirement may have, it appears that some students do not continue to grow in their command of English expression as they pursue their advanced courses. Term papers, examination booklets, and the oral expression of students betray lamentable deficiencies. As a device to reveal the degree of this deficiency, and possibly to some degree a corrective of this situation, the Committee on Examinations included in the qualifying examinations a two-hour test in English composition. It is expected that this examination will become a standard requirement for all students entering the work of the senior year and that those students showing deficiencies in oral or written work will be barred from further progress until the weakness has been repaired.

Whether this examination, given thus late in the college course, can be made an effective means of maintaining good standards in the use of English remains to be discovered. It is conceivable that when students know they are to meet a crucial test of this sort before admission to the work of the senior year they will be more alert to develop and preserve habits of correct expression. It would seem that the examinations would operate at least as a definite motivation against carelessness in expression. Experience may demonstrate that the examination is a more effective means of securing conformity to good standards than is the requirement of so many credits in composition. Should this develop from several years of experimental work, it may become desirable to abrogate the present requirement of freshman course work and to rely wholly upon an effective examination system.

Public service. Under this heading of public service will be included those activities of the College of Education which are not directly involved in the instruction of resident students or in the usual research activities of the faculty and students. The public service activities to be enumerated below are in some cases instructional, in other cases they involve investigations, and in still others they are direct service functions.

Schoolmen's Week. The activities of Schoolmen's Week began about twenty years ago with a short course for superintendents and principals of the public schools in the state of Minnesota. This short course was originally sponsored jointly by the Minnesota State Department of Education and the University. Throughout all of these years this joint sponsorship has continued and the State Department of Education has annually contributed to the expenses of the meetings.

About 1916 there was organized in connection with the superintendents' and principals' short course a High School Conference. The purpose of this conference was to enlist the interest of teachers in the secondary schools of the state in the study of their curricular and instructional problems. In the beginning the groups of teachers invited were largely those in academic fields such as English, history, and the sciences. From time to time other groups have been added until now the series of conferences covers practically one entire week and includes about a score of different groups.

The value of these meetings to the public schools of the state is difficult to determine, but without doubt these meetings serve to keep the educational leaders of the state abreast of educational thinking and bring to them all those new developments in techniques which have characterized educational progress so definitely in the last two decades.

Conference on the Education of Teachers. Beginning in 1930 the College of Education has sponsored an annual Conference on the Education of Teachers. This conference has each year been held about the middle of January. To it are invited (1) interested members of all of the university faculties, (2) presidents and representatives of the state teachers colleges in Minnesota, (3) presidents and representatives of the liberal arts colleges in the state of Minnesota interested in the education of teachers, and (4) presidents of teachers colleges and similar liberal arts colleges in each of the following states: Iowa, Nebraska, North Dakota, South Dakota, and Wisconsin.

The essential purpose of the meetings has been to provide an opportunity for conference by all the diverse institutions educating teachers upon their common problems. No attempt has been made to secure large meetings nor have we invited speakers. Outlined programs of important problems have been provided in mimeographed form and the two-day period of the meetings has been concerned with the pooling of information and judgment concerning the problems thus outlined.

This Conference on the Education of Teachers has been of peculiar significance during the past two years when the United States Office of Education has been conducting a nation-wide study of the problem.

Field service. From the beginning the College of Education has engaged in a certain amount of field service, usually in close co-operation with the State Department of Education. As a matter of fact, Professor A. W. Rankin, who was one of the early members of this faculty, had been, prior to this appointment, inspector of elementary schools in the State Department of Education. During his time of service in the University he continued his intimate contact with public schools throughout the state. He traveled much, visiting schools and attending local meetings, and he initiated for himself and the University a tradition of field service.

To be sure, the intimate relationship which Professor Rankin held to local schools in the state became less necessary and less desirable as the activities of the State Department of Education expanded and as local adminis-

trative leadership in Minnesota became more competent. Notwithstanding this fact, the faculty of this college has kept intimate contact with public schools throughout the state. During the past year members of our faculty have attended all the regional meetings in the state and a considerable number of them have visited local school systems. Special mention in this connection should be made of the work of Assistant Dean Harold Benjamin, of Mr. A. M. Field in Agricultural Education, and of various representatives in the Home Economics Education Department. Dr. E. B. Wesley, newly appointed assistant professor in the field of the teaching of social sciences, visited a large number of schools in the state.

In addition to the contacts provided through visits, the faculty as a whole conducts an elaborate correspondence with school superintendents, principals, and teachers throughout the state. This contact serves not merely to give aid to local schools, but it keeps our faculty in close touch with the local problems of education in the state.

Mention may also be made of the work of Professor Boardman who during the past year has been acting as special inspector for non-public secondary schools seeking accrediting from the Committee on the Relation of the University to Other Institutions.

Summer Session. There is a real sense in which the University of Minnesota Summer Session, insofar as the College of Education participates in it, is a public service activity. Practically all of those students who take courses in the Summer Session are men and women who during the regular year are employed in schools. They come to the University during the Summer Session for the purpose of further education and increased competence in the work upon which they are already engaged. In recent years they have come not merely by hundreds but by thousands to study courses in education, in academic or special subjects, and in an increasing number of cases to work toward advanced academic degrees. For years we have kept a more or less constant check upon the character of the Summer Session enrolment and certain facts from these studies may be here reported. For this purpose the first Summer Session of 1931 will be used as typical. During this session approximately two thousand education students were enrolled. Seven hundred, or approximately one third, were men and the remaining two thirds were women. A very large percentage of these students had already taken Bachelor's degrees. Approximately 35 per cent of the group with Bachelor's degrees, which was 15 per cent of the total group, had received their undergraduate degree at the University of Minnesota. The remaining 65 per cent represented a gathering of students from a wide area. One hundred twenty-three institutions located in thirty different states from Massachusetts to California and from Florida to Montana were represented. From these facts it is clear that the University of Minnesota Summer Session performs a national function and this fact has become increasingly true year by year.

Not merely are our students in the Summer Session drawn from a wide area, but they come from all kinds of educational positions. Classroom teachers in all fields,

principals of elementary schools and of high schools, supervisors, superintendents, college teachers, college administrators, business officers, members of state departments of education, student counselors, health officers are all represented in the list. Of the total number of students enrolled in the first Summer Session of 1931, only about 4 per cent had been students in the University of Minnesota during the previous year or were planning to be students the succeeding year. Viewed, therefore, from the standpoint of public service, it is clear that the University performs a service unique not merely for its territory, but that it provides an extensive and varied educational leadership for the country as a whole.

Participation in investigation. The past biennium has been unique in the number of opportunities which it has provided for our faculty to participate in co-operative educational investigations. Some of these of the widest significance may be here mentioned.

1. Land grant investigation. A number of members of our faculty participated in the investigation of land grant colleges directed by the United States Office of Education. Particular mention may be made of the work of Dr. Palmer Johnson who spent three months in the Office of Education assisting in the compilation and interpretation of data collected from all the land grant institutions. Dr. Johnson also has given time to an extended interpretation of the data collected in the land grant college survey as it relates to the University of Minnesota. This data, now ready for publication, will be reported in detail in the report of the Committee on Educational Research.

2. Study of higher education in Oregon. Assistance was also rendered to the United States Office of Education in the study of higher education in the state of Oregon. Dr. Johnson participated in the preparation of plans for that investigation and Dr. Victor Noll, then a member of our staff, joined in the field work in Oregon.

3. Federal investigation of secondary education. A number of members of our faculty assisted the Office of Education in its three-year investigation of secondary education. Professor L. V. Koos, formerly a member of our staff and now at the University of Chicago, was the associate director of this investigation. One of his major assistants was Professor G. N. Kefauver, formerly of our staff and now of Columbia University. Co-operating with Professor Koos, Professor Fred Engelhardt, made a study of the administration of secondary education and has prepared a report covering that matter. Dr. Victor Noll resigned from our staff to become an assistant on the secondary study during the entire three-year period. Dr. Dora V. Smith was engaged as a special assistant to study the teaching of English in secondary schools, and Professor Robert Hilpert served as a specialist in the study of the teaching of art in secondary schools. These services by our staff reflect not merely a national confidence in their competence, but provide them an opportunity to become more intimately acquainted with educational conditions throughout the country, a fact which reflects to the advantage of their own work at the University of Minnesota.

4. Investigation of the education of teachers. In 1930 the United States Office of Education under an appropriation from Congress started a nation-wide study of the education of teachers. The United States commis-

sioner of education created for the purpose of directing this survey a board of directors of which the dean of the College of Education was one. Professor E. S. Evenden of Columbia University was made associate director of the study and he invited Professor W. E. Peik of our faculty to assume responsibility for certain projects. Professor Peik's work has been an analysis and interpretation of the activities of liberal arts colleges and universities in the education of teachers. During the two-year period he has been on leave of absence for a considerable part of his time and will be on leave one quarter during the coming year at the end of which time it is expected that the Federal Survey will be completed.

5. Financing schools. The fourth large scope investigation planned by the United States Office of Education has been that of the study of school finance. The president of the University of Minnesota is a member of the board of directors created by the United States Office of Education for this inquiry. Professor Fred Engelhardt of our staff has been invited to co-operate in the investigation itself.

6. Other surveys. During the past year Professor Engelhardt has also served with the survey staff for a study of educational conditions in the city of Chicago. The work on this survey was carried forward during the past academic year. Professor Engelhardt has also served as chairman of an advisory committee created by the Board of Education of the City of Minneapolis for a study of budgeting and administration of educational work in Minneapolis. He has also been consultant during the past biennium on certain administrative problems in the State Department of South Dakota.

7. State curriculum revision. For a period of years the Minnesota State Department of Education has carried forward a series of studies looking to the revision of the curriculum in the elementary and high schools of the state. Members of our faculty have through all this period been intimately connected with the various curriculum revision projects. It seems appropriate at this time to make mention of the activities of the following persons of our staff who during the past biennium have assisted either in the preparation or revision of curricula or who have acted in an advisory capacity in connection with such State Department functions: Professors Ruth Raymond in art, Dora V. Smith in English, A. C. Krey and E. B. Wesley in history, and Clara M. Brown in home economics.

8. North Central investigation. The North Central Association of Colleges and Secondary Schools is a voluntary organization interested in the co-operative improvement of secondary and higher education in what is called North Central Territory. This territory now embraces twenty states reaching from West Virginia to Arizona and from Arkansas and New Mexico to the Canadian border. One hundred ten high schools and sixteen colleges in the state of Minnesota belong to this organization.

In order to secure membership a college or secondary school must conform to certain accrediting standards which have been developed during the course of years and which now operate as requirements upon all member institutions. The accrediting procedures of the association are carried out through two commissions. The Commission on Secondary Schools deals wholly with schools of secondary grade; the Commission on Institutions of Higher Education concerns itself with colleges, junior colleges, teachers

colleges, and universities. For a period of years the Commission on Institutions of Higher Education has been working toward an investigation of the validity of its accrediting procedures. One year ago it secured from the General Education Board an appropriation of \$110,000 to which it added \$5,000 a year out of its own funds. This money is being used under the direction of a committee of which the president of the University of Minnesota is chairman to promote an investigation of what would be satisfactory criteria for college accrediting. The investigation has now been in progress one year and will be actively carried forward during two years more. Certain projects which are being developed will probably of necessity need further investigation over a fourth or fifth year.

The actual work of the investigation is being directed by a committee composed of the following persons: President George F. Zook of the University of Akron, Professor Floyd Reeves of the University of Chicago, and Dean Melvin E. Haggerty of the College of Education of the University of Minnesota. During the past year the dean of the College of Education has been on part-time leave of absence to participate in the investigation above described. He will be similarly on part-time leave during the coming year.

Research and publication. Numerous factors have co-operated to promote research in education at the University of Minnesota. Certain of these factors have been general throughout the country, and for that matter, throughout the Western World. These general factors include: (1) unprecedented expansion of educational opportunities in all western countries, (2) recognition of the part which education and educational institutions play in modern civilization, and (3) an awareness that educational practices have grown up everywhere largely on the basis of trial and error processes and have been confirmed into traditions without scientific scrutiny as to their values.

In addition to these general facts which have operated in recent years on all alert university colleges of education, we have had at Minnesota a unique attitude of encouragement toward educational research on the part of the university administration. Because of this it has been possible to secure and to retain on the staff of the College of Education men and women definitely interested

in research activities, to give them liberty and encouragement to do research in the several fields of their special interests, and in a small degree to provide financial support for their investigations. Recognition for this fruitful background is due to the president of the University and to the dean of the Graduate School, and also to the general and progressive intellectual atmosphere of the institution which is saturated throughout in practically all colleges of the institution with the research spirit and a confidence in research activities.

As a result of all these conditions the faculty of the College of Education has found it possible to contribute markedly to the investigation of educational problems and to the advancement of scholarship in the fields of their major interests. There are being constantly published through journals, monographs, books, and other avenues, research studies produced by the members of this faculty. This condition which has prevailed for well on to two decades is looked upon now quite as much a matter of ordinary procedure for the faculty as is instruction of students or any other phase of their university work. During the biennium 48 members, or 66 per cent, of our faculty of 73 have published one or more contributions, the total number of titles for the biennium by members of this faculty being approximately 350.

It is not assumed that all of this volume of publication is of equal merit or that it constitutes in every case a genuine contribution to knowledge. It is certain, however, that as a total result of this activity on the part of the faculty of the College of Education our knowledge of the processes and functions of education are measurably enlarged and that students of educational problems can go about their tasks with increased insight because of this publication.

Such a volume of research publication in itself constitutes a public service of the first order and in the long run, nothing that the University can do will add more permanently to the welfare of public education in Minnesota than this type of educational investigation and publication.

Respectfully submitted,

MELVIN E. HAGGERTY, *Dean*

The Committee on Educational Research

To the President of the University:

Sir: I have the honor to report for the Committee on Educational Research as follows:

Personnel. Three new members were added to the Committee on Educational Research during the biennium. They are F. Stuart Chapin, professor and chairman and director of Training Courses for Social and Civic Work, Walter C. Coffey, dean and director, Department of Agriculture, and Irvine McQuarrie, professor and head, Department of Pediatrics. Otherwise, the committee as named in the last biennial report has remained unchanged.

The following members of the faculty have devoted considerable time to the work of the committee during this period: Alvin C. Eurich, assistant professor of education, Ingolf O. Friswold, instructor in education, Palmer O. Johnson, assistant professor of education, and John M. Jacobsen, instructor in education. Fellowships carrying stipends ranging from \$300 to \$2,000 were awarded to the following persons who, during the second year of the biennium, served the committee in the promotion of special projects: William B. Bjornstad, Eugene D. Carstater,

Marcia Edwards, Paul Greene, Henry G. Harmon, Lucien B. Kinney, and Henry Kronenberg. Mrs. Dorolese Wardwell has given during the biennium full time as an assistant and Mr. Harry C. Johnson and Mr. Kenton Carris have each during one year given 80 per cent time as an assistant to the committee. During the first year of the biennium the chairman of the committee devoted approximately half time and during the second year a considerable portion of time to the direction of the committee's work.

Carnegie Grant. In February, 1931, the Carnegie Foundation for the Advancement of Teaching awarded the sum of \$20,000 to the University of Minnesota for the promotion of research in higher education. This sum became available for the use of the committee at the beginning of the academic year, 1931-32. Approximately \$10,000 has been expended, covering the above mentioned fellowships and certain expenditures for supplies and clerical assistance. The remaining \$10,000 is available for the year beginning July 1, 1932.

In addition to the Carnegie funds certain allotments made by the president of the University have been available for the promotion of individual projects.

Publications. The publication of research materials resulting from the activities of the committee has continued during the biennium. The annotated bibliography printed as the final section of the full report lists 264 publications by 78 different members of the faculty and 31 graduate students theses. There is evident from this record a widespread desire on the part of the faculty of the University of Minnesota better to understand the problems of higher education with which it deals. Many of the articles which have found their way into print in a wide range of professional journals are based either upon matured experience in college teaching and adminis-

tration or upon definitely planned researches. Since many studies are undertaken by individuals and departments on their own initiative and frequently without the matter coming to the attention of any centralized agency, it is difficult to portray in this report a complete picture of the amount of study and investigation of this type which is going forward in the University.

Co-operation in investigations. The committee has co-operated actively in the following investigations not directly under its own direction: Land Grant College Survey, Federal Investigation of the Education of Teachers, North Central Association Study for the Revision of College Standards. The offices and facilities of the committee have been available in connection with the above named investigations, and certain members of the staff have had official responsibilities in connection with them. No financial support, however, has been provided from university funds for these investigations.

Committee projects. The procedures of the committee have remained essentially the same as those described in previous reports. Studies are developed on a project basis. Special staff groups composed of members of the committee and other interested members of the faculty are created as subcommittees for the general direction of investigations. Wherever possible, to such subcommittees are added graduate students or members of the staff who are able to give continuous time to the promotion of the study. The clerical and other facilities of the committee are made available as need arises. A description of research projects and an annotated bibliography will be given in the longer report to be printed separately.

Respectfully submitted,

M. E. HAGGERTY, *Chairman*

IN the past there has been a feeling that members of a university staff had little to offer in the way of advice and counsel to a practical business world. The difficulties encountered by business men in meeting the problems imposed upon them by the complicated economic structure that has suddenly become badly out of balance has led them to turn for help to those versed in theoretical economics. There is no other group in the state that is so well equipped to analyze the facts and forces that contribute to economic instability and to formulate plans for coping with the situation as members of a university staff in economics and business. They are able to bring to bear on such problems an objective point of view, uninfluenced by ulterior motives or by the partisanship of vested interests. The members of the staff have recognized their responsibilities to the state in this connection and have contributed extensively of their time and energy.

Russell A. Stevenson, Dean
The School of Business Administration

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 1930-32.

Public services of the faculty. The unprecedented economic conditions prevailing during the past two years brought new problems and new responsibilities to the staff of the school. Perhaps the most significant development was the extension of the services in the way of counsel and advice of the faculty to various groups in the state. The depression has brought economic problems very much to the fore in public discussions. There has been a pronounced demand on the part of business men and others for information and responsible opinions on such questions as the gold standard as well as other monetary and banking problems, the factors causing economic depressions, problems of unemployment, etc.

Members of the faculty have given much of their time to writing for current periodicals and giving public addresses on these several subjects. During the academic year 1931-32 the major members of the staff appeared before 93 groups discussing current economic problems. In addition to these formal addresses, members of the staff participated in 17 different conferences on similar subjects. There were 83 articles appearing in current publications by members of the staff of the school during the past year. These are indicative of the services being rendered by the faculty to the state and to civic organizations.

This movement is somewhat unique and certainly represents a new field for educational leadership. In the past there has been a feeling that members of a university staff had little to offer in the way of advice and counsel to a practical business world. The difficulties encountered by business men in meeting the problems imposed upon them by the complicated economic structure that has suddenly become badly out of balance has led them to turn for help to those versed in theoretical economics. There is no other group in the state that is as well equipped to analyze the facts and forces that contribute to economic instability and to formulate plans for coping with the situation as members of a university staff in economics and business. They are able to bring to bear on such problems an objective point of view, uninfluenced by ulterior motives or the partisanship of vested interests. The members of the staff have recognized their responsibilities to the state in this connection and have contributed extensively of their time and energy.

Several members of the staff have also been called upon to serve on national and international commissions dealing with economic problems. Special mention should be made of the conferences of the Harris Institute on the subject of business cycles, price movements, and unem-

ployment held at the University of Chicago in the summer of 1931 and in January of 1932. Professors Alvin H. Hansen and Arthur W. Marget took an active part in both of these meetings. Other members of the staff have contributed to similar conferences either in person or by submitting memoranda.

Research. The faculty has been unusually active and productive in research during the biennium. Special mention should be made of the type of research that has occupied the attention of the faculty and graduate students during this period. There has been a definite attack upon the pressing economic and business problems of the region. The school recognizes its responsibility to the state in furnishing data properly organized and interpreted. There is probably no other agency that is so favorably situated to furnish reliable information interpreted by unprejudiced investigators who maintain an objective viewpoint.

There are three broad studies, in addition to several subsidiary investigations, which should be mentioned in this connection.

The distribution study. A committee of the faculty in co-operation with several representatives of other divisions of the University, including history, sociology, and psychology, prepared a monograph entitled, *The Consumer and Changes in Methods of Distribution of Consumer Goods* in 1930. This committee had the advice and counsel of Dean J. C. Lawrence throughout its work. A program of investigation in the field of distribution of consumer goods that would require the co-operative efforts of a number of divisions for a period of five years was outlined in the monograph. There was also included a summary of several research studies that had been completed or were in process at the time. This monograph was submitted to the Social Science Research Council where it received favorable comment and we were encouraged to carry on the investigation. A report of this committee was submitted to the Board of the Rockefeller Foundation with a request for financial support. The foundation later appropriated certain funds for a research program at the University of Minnesota, a part of which has been allocated to this project.

The distribution studies have, therefore, gone on under the general chairmanship of Professor Roland S. Vaile. The results of some of their investigations have already been published.

The Minnesota unemployment research project. A second major project was undertaken shortly after the present depression set in. In the fall of 1930 representative groups in the cities of Minneapolis, Saint Paul, and Duluth organized what has since been called the Tri-City

Employment Stabilization Committee, the original purpose of which was to secure information on the conditions of employment in the three cities and to aid in devising plans for meeting the relief needs. This committee, under the direction of the University, proposed a comprehensive study of unemployment to three of the eastern foundations. These foundations furnished the necessary funds for a two-year study and experimental program.

In order to carry out the provisions of the grant a separate administrative unit was set up under the title of the Employment Stabilization Research Institute. A separate report has been prepared covering this project. This report appears on page 169 of this volume.

The Minnesota Tax Survey. A third major study is being conducted under the direction of Professor Roy G. Blakey in the field of taxation. This study involves the co-operation of a staff of twenty-two members from the major divisions of the University.

Business index of the northwest region. A business index for the northwest region was constructed by Richard L. Kozelka based upon materials obtained, partly from his Doctor's thesis and partly from materials in the Employment Stabilization Research Institute. This index was prepared in such a way as to chart the trend of business in this region in relation to the business for the nation as a whole. It also breaks down the general index into several divisions covering agriculture and the several manufacturing industries represented in the territory. This index will be a valuable guide for the business interests of the state and may form an important part of the background for the organization of regional economic planning.

Studies in economics and business. In view of the several studies which have been described under the Distribution Study and the Minnesota Tax Survey, a special series of publications has been provided, set up by the University Press under the title, Studies in Economics and Business. To date there have been three publications in this series. All of these involve studies pertaining directly to the northwest region.

Curriculum. Considerable attention has also been devoted to the problem of the curriculum. It is the function of the School of Business Administration to afford training for the administrative occupations in the state of Minnesota and particular attention has been given to the development of curricula with that end in view.

Lacking a thorough survey of business positions and opportunities in this region, it has been necessary to experiment and test results in several fields. It has been the policy of the school to maintain a body of courses known as the Core Group to furnish a broad training in all fields of administration and to give opportunity for specialization in certain restricted fields to a very limited extent. This policy assures a well-rounded course for all students and enables the graduate to adjust himself more readily to various specialized occupations. In this regard Minnesota differs in policy from a number of the other collegiate schools of business. There are institutions in which specializing in accounting, for example, is provided

throughout the entire four-year period and students in this field are not given an opportunity to survey such related fields as banking, personnel management, marketing, statistics, etc. In view of the dynamic character of the modern industrial organization and the uncertainty of positions in the administrative group of occupations, such a policy appears to the faculty here undesirable from the standpoint of the welfare of the student, and an unsound educational program.

The co-operative plan of instruction in the field of accounting has been continued, although the opportunities for employment during the period of depression have been somewhat limited. A plan of co-operation with the department stores of the Twin Cities is about to be undertaken in the fall term of this coming year. This involves training in department store methods under conditions of employment during the junior and senior years. The course is restricted to women students. It aims to give the training necessary to develop department store executives. The course of study and the plan of rotation in the store is worked out by a joint committee of the faculty and representatives of one of the department stores.

During the junior year the student spends her afternoons in employment under supervision. She will be shifted from one department to another until she has covered the major divisions of the store. During her senior year she is attached to the office of a major executive as an understudy. The first store to undertake this plan of co-operative training has assured us that those women who have been trained under this plan and have completed a well-organized course of study at the University will find opportunities in the major positions open to women in the department stores of the state.

A special effort has been made to care for the needs of the unusual students who have shown particularly high aptitude in scholarship. In order to allow more freedom to these students an Honors Course was introduced in 1930. This enables a student who has special interests and has shown ability to do independent work an opportunity to study and receive guidance and counsel outside of the regular class work.

One of the most significant developments in the curriculum of the school has been an outgrowth of the research work being conducted in the Employment Stabilization Research Institute. The institute has afforded exceptional opportunities for members of the staff to become more intimately acquainted with the economic and business problems of this region. The results of these studies are being brought directly to the students in the school in the regular undergraduate courses. In addition to this, two seminars were organized for graduate students whose work contributed to the institute studies and who benefited materially from coming in contact with the pressing problems of the region. It is intended to continue these special seminars during the coming year. The data obtained from the surveys conducted by the institute will furnish ample material for both undergraduate and graduate theses.

Statistical laboratory. The equipment for instruction in statistics has been improved materially by the addition of the latest models in Hollerith tabulating machinery. The school now has an eighty-column Hollerith card counting sorter and tabulator. This has made possible the assignment of research problems involving statistical analysis. The acquisition of this machinery was made possible without additional budget cost to the University by placing the equipment on a service basis. The equipment is used half time for instructional purposes and half time on research projects for other divisions of the University. There are very few schools in the country that are as well equipped to give instruction in the field of statistics as is the University of Minnesota.

Future plans. The school has just rounded out the thirteenth year of its existence as a separate administrative unit of the University. During the greater part of this time it has been concerned chiefly with the problems of the undergraduate student. The enrolment increased over fivefold from 1919 to 1930. In view of the fact that the staff and equipment were only slightly increased during this period, it was necessary for the faculty to concentrate

its attention almost entirely upon the problems of internal organization.

It appears now that the rate of growth has been materially checked. There has been only a slight increase in enrolment during the past two years. If this condition prevails for a few years, it is possible that more time will be available to devote to some of the functions that have necessarily been slighted in the past.

More attention should be given in the future to the outside service functions of the school. There is a definite need in the state for an extension of the educational facilities in the fields of economics and management to those actively engaged in business. The University should provide the business men of the state with information on the latest developments discovered in the research work being conducted in the fields of economics and management. More attention will be devoted to this problem in the future in the hope that the school will be able to contribute more to the economic development of the state.

Respectfully submitted,
RUSSELL A. STEVENSON, *Dean*

The Employment Stabilization Institute

UNEMPLOYMENT is not wholly an economic problem, although its causes may be found chiefly in the maladjustments of our modern economic structure. The consequences of this recurring phenomenon are noted in every phase of life. Individuals are affected not only in the loss of personal incomes and financial status, but also in their physical well-being and mental attitudes. Our social and educational institutions find it necessary to adjust their plans and to reappraise their aims and objectives due to the unforeseen circumstances brought on by a major economic depression.

No one person is able to comprehend all of the facts and forces that contribute to the distressing conditions that are so clearly evident. Palliatives are suggested without number, yet none of them is based upon a knowledge of the causes or the probable effects of the proposed remedies. Furthermore, we cannot expect anything in the way of constructive action until we are possessed of a better understanding of the facts. It is for the purpose of contributing as much as possible to this end that members of the staffs of several divisions of the University, including economics, business, sociology, psychology, education, engineering, and medicine, have been devoting a major part of their time and energies in co-operating in this project.

A statement of the aims and objectives of the Employment Stabilization Research Institute, as presented to the foundations that granted financial support to the project, is presented in detail in "The Minnesota Unemployment Research Project," which was published in October, 1931.

Russell A. Stevenson, Director
The Employment Stabilization Research Institute

The Employment Stabilization Research Institute

To the President of the University:

Sir: This report covers the major activities of the Employment Stabilization Research Institute for the period ending June 30, 1932.

Objectives. The research project for which the institute was organized and authorized by action of the Board of Regents in February, 1931, is a co-ordinated survey of the problems of unemployment in Minnesota. It has been possible through this agency to utilize the resources of the University as represented in the staff and equipment of the various departments in a concerted effort to ascertain the causes of unemployment and to formulate constructive plans for the future in coping with this problem.

Unemployment is not wholly an economic problem, although its causes may be found chiefly in the maladjustments of our modern economic structure. The consequences of this recurring phenomenon are noted in every phase of life. Individuals are affected not only in the loss of personal incomes and financial status, but also in their physical well-being and mental attitudes. Our social and educational institutions find it necessary to adjust their plans and to reappraise their aims and objectives due to the unforeseen circumstances brought on by a major economic depression.

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A statement of the aims and objectives of the institute, as presented to the foundations that granted financial support to the project, is presented in detail in *The Minnesota Unemployment Research Project*, which was published in October, 1931. In summary form, the problems to be considered were classified under three heads as follows:

1. The economic and industrial phases of the problem.
2. The rehabilitation, re-education, and diagnosis aspects of the problem.
3. The establishment of employment bureaus and exchanges under the guidance and supervision of local and state government agencies.

The economic study. The necessary funds to conduct a study of the basic economic and industrial phases of the problem were granted to the University by the Rockefeller Foundation. It was intended that this study would cover

a two-year period. The first year was devoted to the collection and analysis of data. During the second year the data will be analyzed and interpreted for the purpose of formulating long-time economic planning.

It would be impossible within the reasonable space limitations of this report to record the many and varied activities of the staff on this study. An idea of the extent of its work may be gained, however, from a brief statement of the methods of investigations. Aided by the active co-operation of the business interests of the Twin Cities and Duluth, a thorough analysis of the operations of over five hundred industrial, commercial, and financial concerns has been completed. The concerns selected for this study cover the major employers and are representative of the principal industries. Schedules were prepared for each business showing its operations in detail for the past six years.

On the basis of the information thus obtained it will be possible to prepare a report showing the fluctuations in business activity in this region classified by industries. This will show which industries are declining and which ones are on the upgrade. A further analysis will reveal the causes of the major changes. The changes in the local situation will be set against the national trends as determined by an analysis of data obtained from the census reports and materials taken from other studies.

Gradually, as the work has progressed, a method of translating the results of the investigation into plans of action has evolved. It is planned to organize a series of industrial and banking clinics in order to bring the facts obtained through research to the executives of the individual concerns. Experiments have already been conducted in this procedure and the results have been very encouraging. The business men who have attended these clinics say that the information presented could not be obtained through other channels and that it furnishes a sound basis for planning.

It has also been demonstrated that workers can be shifted from one industry to another as the demand for their services fluctuates. In order to effect an orderly transfer of labor between industries having peak loads at different times, employment stabilization groups of employers are being organized. This plan, if made effective, should tend to stabilize the employment of the working population.

A division of the institute has been established to carry forward the work of collecting statistical data and disseminating the results of research to the business interests of the state. It is hoped that this phase of the work of the institute may be carried forward after the termination of the project. This will be necessary if the results of the study are to be made of lasting benefit.

The work of organization will not be complete until all of the various divisions are co-ordinated under an economic planning council for the state. It is impossible at this time to anticipate the method by which this will be accomplished. There is reason to believe, however, that the various co-operating groups in business will be able to work out a plan that will give effect to such an organization. A major part of the work of the institute during the next year will be devoted to this problem.

Individual diagnosis and retraining. This phase of the work is being financed by a grant from the Carnegie Corporation. The aims of this study are threefold.

1. To provide an adequate cross section of the basic re-education problems of the unemployed.
2. To test out methods of individual diagnosis of vocational aptitudes of employed workers, and
3. To demonstrate methods of re-education of workers dislodged by industrial changes and consolidations.

During the first year of the experiment 4,000 unemployed individuals were examined in clinics established in the Twin Cities and Duluth. The cases were carefully selected in order to obtain a fair sampling from the 80,000 unemployed in these cities. The examinations were conducted by a group of specialists in psychology, vocational education, sociology, and medicine. Each person was put through a battery of tests designed to measure his physical condition, mental attitudes, social backgrounds, and vocational aptitudes. The results of the tests were reviewed in a staff conference and a decision reached as to the type of retraining or other types of rehabilitation needed to fit the individual for productive work. The cases carried through the staff conference were classified as follows:

1. Individuals found to be mentally or physically unfit for employment—these persons were informed as to where institutional or other treatment could be secured or were referred to appropriate social agencies as an intermediate step in obtaining help.
2. Individuals found fit for placement were referred to the free employment offices.
3. Individuals for whom some form of retraining seemed desirable were referred to the retraining specialists on the staff.

The clinics for the examination of unemployed were closed in June, 1932, in order to enable the staff to examine a comparable sampling of individuals who have been continuously employed throughout the depression. Tests of these "control" groups will furnish standards for comparison. It is expected that this phase of the work will be completed by early fall.

The work of the second year will consist chiefly in analysis and interpretation of the data obtained in the case studies, and in preparing materials for publication. Experiments in retraining will also be carried forward.

The staff on this project has had the co-operation of the Division of Rehabilitation of the Physically Handicapped of the State Department of Education and of the public schools in the three cities. Already the results of the experiment are taking tangible form in the practices

of state and municipal departments and in the several vocational schools. Furthermore, the personnel departments of a number of the business concerns have introduced the testing methods developed in the experiment in the selection and training of their employees.

When the analysis of the data on individual cases has been completed we will have a fund of information that should prove invaluable to the state and local governments in formulating plans and policies for dealing with many of their social and educational problems.

Experiments in public employment offices. This experiment was made possible by a grant from the Spelman Fund. The grant in this case was made directly to the Minnesota Industrial Commission which has control and supervision of all public employment offices in the state. An act of the state legislature authorized the commission to accept funds for this purpose.

One condition in the grant from the Spelman Fund provided that the experiment be conducted under the advisory control of the Tri-City Employment Stabilization Committee. This committee consists of the governor and mayors of the three cities, four representatives of employers, four representatives of labor, including the industrial commissioner, and three representatives of the university faculty. It was organized specifically for the purpose of conducting this experiment. The university members of the committee are also on the staff of the institute. This arrangement has insured proper co-ordination of the experiment with other phases of the entire project.

It is the aim of this experiment to attempt to demonstrate how public free employment agencies may be made to serve the community as a unified system of labor clearance. In order to accomplish this result, it is essential to introduce into the offices the techniques for the individual diagnosis of aptitudes and special qualifications of applicants for jobs as developed in the second project. The public employment offices should serve as the agency through which the techniques which have been tested in the other two projects may be made effective in the employment of individuals in the state.

Personnel. The staff of the institute has varied in size but has required the services of more than one hundred persons, including research assistants and clerical workers.

Each of the three projects mentioned above is headed by a chairman. Professor Alvin H. Hansen of the School of Business Administration is chairman of Project 1, Professor Donald G. Paterson of the Department of Psychology of Project 2, and Professor William H. Stead of the School of Business Administration of Project 3. Professor M. R. Trabue of the University of North Carolina is employed as executive secretary for the second project.

Publications. It is planned to record the findings of the research work in a series of from twenty to forty bulletins. Seven bulletins in this series have already been published. The titles of these may be found in the opening section of this volume under the subhead, "Employment Research Project."

Respectfully submitted,

RUSSELL A. STEVENSON, *Director*

Special Educational Units

IT is now quite apparent that during the past ten or fifteen years there has occurred a notable change in the point of view with reference to the objectives of university extension or indeed of adult education as a whole. In the early years of this century, university extension as a part of the general adult education movement was understood to be an effort to make up the arrears of education for the underprivileged. Those who for financial or other considerations had been forced to give up their regular careers of education at the conventional time in their lives were to be given the opportunity later to combine earning a living with the pursuit of higher education at times and places specifically adapted to their circumstances. In other words, the idea was to make up to certain unfortunate individuals for their lost opportunities of education. University extension and other forms of adult education through correspondence courses and evening classes placed the facilities of education at the disposal of those who were engaged during the ordinary daytime hours in the engrossing occupation of making a living. This was regarded as society's attempt to equalize lost educational opportunities.

Of late years the point of view has changed. Without neglecting the underprivileged citizen, the purpose now is to emphasize the gospel of the continuing education of all people to the limit of their respective capacities. The aim is to take people wherever they may be found on the educational ladder and to preach the importance of continuing, stimulative education that shall continue so long as life lasts. This is meant to benefit the individual by giving him the conception of a richer and more purposeful life, but it is also meant to benefit the state and society in general by providing citizens of a higher level of intellectual attainment. Social, industrial, and political problems of today are so numerous, so difficult, and so complex that a more advanced state of general education is essential for the preservation of the social fabric. The truth is well expressed by H. G. Wells in his oft-quoted phrase, "Civilization is a race between education and catastrophe."

R. R. Price, Director
The General Extension Division

The General Extension Division

To the President of the University:

Sir: I submit herewith the report of the General Extension Division for the academic biennium beginning July 1, 1930, and ending June 30, 1932.

Within this report are included the activities of the General Extension Division, and of the subsidiary bureaus or departments under which the work is organized for purposes of administration. These departments with their appropriate activities are classified as follows:

1. The Department of Extension Classes, under which are embraced also the several short courses, including the six-month Course in Embalming and Funeral Directing.

2. The Department of Correspondence Instruction, which is charged also with the preparation and promulgation of informal reading courses.

3. The Department of Community Service, under which are included the University Lyceum, the Drama Service, the Bureau of Visual Education, and, as a collateral function, the Radio Broadcasting Service.

4. The Municipal Reference Bureau, through which the affiliation with the League of Minnesota Municipalities is maintained.

Mr. Gislason, the head of the Department of Community Service, has been entrusted with the additional duty of acting as program manager of the University Radio Service. It may be stated here that in the summer of 1930, the new 1,000-watt transmitting station, located on the university recreation field, was completed and was put into operation that fall. It is equipped with the latest and most approved transmitting apparatus. As a result of the new location on the university recreation field, complaints of the blanketing of receiving sets in south Minneapolis and in the vicinity of the University have ceased.

The Seventh Annual State High School Music Contest was held in May, 1931, and the eighth in May, 1932. These annual contests are conducted under the auspices of the University of Minnesota, through the General Extension Division and the Minnesota Public School Music League. Mr. I. W. Jones, secretary-treasurer of the league, is a member of the Extension Division staff, and has prepared the report which is included herewith.

It is now quite apparent that during the past ten or fifteen years there has occurred a notable change in the point of view with reference to the objectives of university extension or indeed of adult education as a whole. In the early years of this century, university extension as a part of the general adult education movement was understood to be an effort to make up the arrears of education for the underprivileged. Those who for financial or other considerations had been forced to give up their regular careers of education at the conventional times in

their lives were to be given the opportunity later to combine earning a living with the pursuit of higher education at times and places specifically adapted to their circumstances. In other words, the idea was to make up to certain unfortunate individuals for their lost opportunities of education. What they could not secure at the conventional time in youth, they could secure in unconventional ways and at unconventional times during their mature years. University extension and other forms of adult education through correspondence courses and evening classes placed the facilities of education at the disposal of those who were engaged during the ordinary daytime hours in the engrossing occupation of making a living. This was regarded as society's attempt to equalize lost educational opportunities.

Of late years the point of view has changed. Without neglecting the underprivileged citizen, the purpose now is to emphasize the gospel of the continuing education of all people to the limit of their respective capacities. The aim is to take people wherever they may be found on the educational ladder and to preach the importance of continuing, stimulative education that shall continue so long as life lasts. This is meant to benefit the individual by giving him the conception of a richer and more purposeful life, but it is also meant to benefit the state and society in general by providing citizens of a higher level of intellectual attainment. Social, industrial, and political problems of today are so numerous, so difficult, and so complex that a more advanced state of general education is essential for the preservation of the social fabric. The truth is well expressed by H. G. Wells in his oft-quoted phrase, "Civilization is a race between education and catastrophe." This is the concept of adult education.

It should be understood that the Extension Division conducts its educational enterprise in both formal and informal ways. Formal instruction is provided for students who seek credit toward a university degree and also for students who do not seek such credit through evening extension classes taught by university instructors in the populous centers of Minneapolis, St Paul, and Duluth, as well as in certain other communities, especially on the Iron Range. For those who cannot attend classes, formal instruction both for credit and not for credit is provided through correspondence courses, whose benefits may be received by students scattered in isolation all over the state as well as in other states and in foreign lands.

The informal instructional and informational service where no university credits are involved is rendered through the University Lyceum of popular lectures, dramatic reading, and music; through visual instruction

by the use of educational films and slides for the public schools; and through the Drama Service by the circulation of reading copies of popular plays for amateur production. An important phase of this informal educational instruction is found in the services rendered by the Municipal Reference Bureau, especially as those services are made practical and very acceptable through the affiliation of the bureau with the League of Minnesota Municipalities. The bureau is thus enabled to provide information of a very specific character to municipal officers.

A study of Minnesota extension students. During the past two or three years the director and the staff of the General Extension Division have interested themselves in the characteristics of the University of Minnesota extension student body. Research has been conducted to determine the mental abilities and social characteristics of extension class students.

During the second semester of the school year 1929-30 and during both semesters of the school year 1930-31 practically all enrolled extension students were examined by aptitude tests. About 5,500 extension class students were studied. This investigation was the first one ever made of the extension student body of a university.

Among the many discoveries made, mention will be made of the following:

1. Extension students perform on college aptitude tests better, on the average, than do entering Science, Literature, and the Arts freshmen and about as well as College of Education juniors and seniors do.
2. The older extension students tend to show greater measured aptitude than do the younger ones.
3. Extension students come to university classes from all vocations. Some have had little formal education, and some have had very much. They average between thirteen and fourteen years of previous formal education.
4. Checking the actual classroom achievement of students who differ in the amounts of their formal training and in their college aptitude reveals the fact that high aptitude is much more essential for classroom needs than are years of schooling.

The classroom achievement of students in similar day and evening classes has been compared whenever classes which satisfy experimental conditions have been found. It may be safely stated that the extension students in such classes reach as high standards of achievement as do the full-time day students.

Proposed research in the field of adult abilities and adult education. The Minnesota studies have attracted nation-wide interest among those interested in adult education. Fortunately, our investigations are to be expanded to include the extension class students of several other universities. Through the influence of the American Association for Adult Education, the University of Minnesota has been granted \$10,000 by the Carnegie Foundation for this purpose. It is hoped that these investigations will be well under way during the fall of 1932. The study will be made by Dr. Herbert Sorenson of the staff of the General Extension Division under the direction of a general university committee.

The National University Extension Association. On May 11, 12, and 13, there was held at the University of Minnesota under the auspices of the General Extension Division the Seventeenth Annual Convention of the National University Extension Association. This was the first meeting of the association at which the University of Minnesota was host. The central theme of the convention program was "Quality in University Extension Teaching," with special attention to three aspects of the subject: quality in extension class work; quality in correspondence instruction; and improved informal methods of teaching. Delegates gathered from universities situated in all sections of the United States. The program elicited much local as well as national interest. There were 116 official delegates registered, but there was an equal number of unofficial visitors and interested listeners. The members of the staff of the General Extension Division all testified to the inspiration and stimulation received from this gathering of men and women whose mission is to foster and to guide the movement for adult education on the college and university level.

Staff changes. In July, 1930, the undersigned, who had spent the preceding year on sabbatical leave in Europe, resumed his duties as director of University Extension. Mr. Thomas A. H. Teeter, associate professor of engineering on the staff of the Extension Division, had acted as director during the year 1929-30. During the summer of 1930, it was arranged that Mr. Teeter should assume the duties of associate director of the Summer Session, relinquishing for that purpose some of his duties and activities with the Extension Division. In the summer of 1930, Dr. Clarence P. Hotson, assistant professor of English in the General Extension Division, resigned and the position has been allowed to remain vacant. In the summer of 1931, Miss Alta Jones resigned and her place, as instructor in English, was filled by Miss Mildred Boie, a graduate of the University.

The radio controversy. The university radio station, WLB, is on the same wave length and uses the same frequency, 1,250 kilocycles, as do the stations at Carleton College and St. Olaf College, Northfield, and a commercial station, WRHM, in Minneapolis. Under the regulations of the Federal Radio Commission, stations using the same wave length are required to enter into an agreement as to sharing of time. The three educational stations have never had any difficulty about this, but the commercial station, WRHM, has insisted on encroaching and on demanding a larger percentage of the total available time. During the last year under review, the three educational stations together have used a total of 20 hours a week, whereas Station WRHM has used 104. In the spring of 1932, Station WRHM filed an application in Washington before the Federal Radio Commission for full time on this wave length. This, if granted, would mean the entire exclusion from the air of the three educational stations, since no other wave length is available. This applies particularly to wave lengths with evening time free. The three educational stations thereupon, as a counter defense, applied also for full time on this wave length, which would

also mean the exclusion of station WRHM. The principle involved in the issue just drawn is the rights of educational stations on the air when their interests conflict with the interests of those stations whose aim is the making of money through the broadcasting of sponsored or advertising programs. The hearing was held before the Federal Radio Commission in Washington on May 19, 20, and 21, 1932. The attorney-general of Minnesota appeared in behalf of the University, his representative being Mr. Charles Phillips. The University was also represented by a Washington attorney who specializes in cases before the Radio Commission. At the hearing, the three educational stations modified their demands for time and asked for a total of about thirty-nine hours to be divided among the three. They insisted, however, that they should be assigned a reasonable share of the choice evening hours. The hearing was held before an examiner and at the date of this report, the examiner had not yet brought his findings before the commission. A decision is hoped for and expected in the early autumn of 1932.

Extension classes. During the biennium under review, regularly organized extension classes were conducted in Minneapolis, St. Paul, Duluth, Coleraine, Eveleth, Grand Rapids, Hibbing, Rochester, Virginia, Chisholm, and Keewatin. These classes were of regular university grade, each one meeting one night a week for two hours during the semester of seventeen weeks. The first semester was followed immediately by a second semester of the same length. The total number of student semester registrations in these evening extension classes for 1930-31 was 11,849; for 1931-32, 10,036. This shows a net loss in the second year of the biennium over the first year of 1,813, or between 15 and 16 per cent. The total number of individuals registered in these classes for 1930-31 was 7,011 and for 1931-32, 6,143. This represents a loss in the second year of about 12 per cent. The total budgetary loss in tuition fees of the second year over the first year of the biennium was about \$21,000, or about 16 per cent. This is the first time that the Extension Division has had to record a loss in night class enrolment since the war years. The full weight of the economic situation had not made itself felt on our students in 1930-31, but registered itself unmistakably in 1931-32. It is quite probable that the year 1932-33 will also show a loss in enrolment in evening extension classes as well as in correspondence courses. This is to be expected under the present economic situation. Those who attend extension classes are usually those who during the daytime hours must work for a living. Under conditions of extensive unemployment, these resources are soon consumed. They then have no marginal funds to devote to the pursuit of education.

Short courses. During the first year of the biennium, 40 short courses were conducted and during the second year, 25. During the first year there were 11 different kinds of courses and during the second year, 9. The number of registrations in these short courses fell from 1,179 in the first year to 751 in the second. Because of the large increase of the number of students in the Short Course in Embalming, however, the receipts from fees in

these short courses were \$2,700 larger in the second year than in the first year of the biennium.

A summary of statistical matter concerning the evening extension classes and the short courses will be found appended to this report.

The Course in Embalming and Funeral Directing. The course of instruction for the embalmer and funeral director was established at the University of Minnesota by act of the Board of Regents on April 4, 1908. The first session began January 5, 1914, and lasted for six weeks. At that time, only an eighth grade education was required for entrance to the course. After the second annual session held in January and February, 1915, the course was extended to eight weeks, and one year of high school work was required for admission. Since then, the length of the course has been successively extended to twelve weeks and twenty-four weeks. The completion of a full, four-year high school course is now required for admission.

It has been felt for some time that too much work was expected of the students of this course in the short period of two university quarters. With the support of the Minnesota Funeral Directors' Association, and of the Conference of the Embalmers' Examining Boards of the United States, it is proposed now to make the course a full academic year in length. Beginning October 3, 1932, the course will be conducted in three university terms or quarters of twelve weeks each. Those who complete the work successfully will be awarded a university certificate.

BIENNIAL REPORT SUMMARY, 1930-32

EXTENSION CLASSES AND SHORT COURSES

Summary of Extension Class

Student Registrations:

	1930-31	1931-32
Total collegiate	6,695	6,118
Total business	3,537	2,598
Total engineering	1,617	1,320
 Total	 11,849	 10,036
Net gain over previous year.....	107	
Net loss over previous year.....		1,813

Summary of Fees, Extension Class:

Total collegiate	\$73,191.50	\$64,079.75
Total business	37,000.50	29,494.50
Total engineering	15,686.50	11,397.50
 Total	 \$125,878.50	 \$104,971.75
Net gain over previous year.....	\$ 4,463.32	
Net loss over previous year		\$ 20,906.75
Total number of classes given.....	625	533
Total number of individuals in classes..	7,011	6,143
Gain over previous year	115	
Loss over previous year.....		868
Total number of short courses.....	40	25
Total number of kinds of short courses..	11	9
Number of registrations in short courses	1,179+	751+
Total short course receipts	\$10,473.75	\$13,186.50
Gain over previous year		\$ 2,712.75
Loss over previous year	\$ 1,505.25	

Municipal Reference Bureau

Information Service. Inquiries on subjects of government requiring preparation of special reports to public officials, civic agencies, and private individuals numbered 1,164 for the year 1930-31 and 1,884 for the year 1931-32.

"**Minnesota Municipalities**," the monthly magazine of the League of Minnesota Municipalities, edited at the bureau, has an average monthly circulation of 4,211. This magazine, ranging from thirty-two to sixty-four pages in size, is sent regularly to municipal officers in approximately 350 cities and villages in Minnesota, to state officers, and to civic agencies.

Other publications. Special publications released at the bureau and issued by the League of Minnesota Municipalities numbered twenty-nine, the titles of which may be obtained upon application to the Municipal Reference Bureau. These covered the wide range of problems vital to municipalities.

Special services. The Municipal Reference Bureau, in co-operation with the League of Minnesota Municipalities, has aided in furnishing information in ordinance revision surveys for the villages of Lester Prairie, Young America, and Lake Benton and in charter revisions for Eveleth, Lake City, and Moorhead.

At the request of the city of Minneapolis, a personal survey including a reclassification of all offices and employments in the classified service of the city was submitted to the Minneapolis Civil Service Commission. The proposed classification together with rules and regulations for administration has been accepted by the Civil Service Commission and is now in force.

Schools and conferences. The Municipal Reference Bureau, together with the League of Minnesota Municipalities, sponsored or participated officially in twenty special schools and conferences during the biennium. Among these were five regional conferences on tax matters conducted by the league in the winter of 1931-32, at Morris, Virginia, Albert Lea, Crookston, and Pipestone, the annual conference of the League of Minnesota Municipalities in 1931-32, the annual Minnesota Tax Conferences of 1931 and 1932, a fire school in 1930, and a conference of the fire school committee in March, 1932. In addition to these there were a conference on recreational and playgrounds in December, 1930, a Minnesota Public Utility Conference in February, 1931, a legislative conference on the Minnesota League of Municipalities in January, 1931, a conference on university training for the national service in July, 1931, a conference on natural gas franchises in October, 1931, and one on unemployment relief in November, 1931, also a police conference in May, 1932.

League membership. The membership on June 1, 1932, was 354 cities, villages, or townships.

Grant-in-aid, from the Spelman Fund of New York. The Municipal Reference Bureau, in fostering the interests of the League of Minnesota Municipalities is indirectly benefited by a grant-in-aid to the league from the Spelman Fund of New York. On April 16, 1931, the trustees of the Spelman Fund announced an appropriation to the

league amounting to \$45,000 to be spent over a five-year period. The purpose of the grant is to permit the expansion of the league's information service and training and research activities. The expenditures will be appropriated in amounts of \$10,000 to be available for each of the first four years beginning July 1, 1931, and \$5,000 for the fifth year.

State-Wide Music Contest

The State-Wide Music Contest has been conducted during the two years of the biennium by Mr. Irving W. Jones of this division. He submits the following report of the contest held in May, 1932:

The eighth annual high school music contest, conducted under the joint auspices of the General Extension Division and the Minnesota Public School Music League, was held under the adverse circumstances of financial stress, and yet manifested its vigor and its established place in the educational program of the state. There was a slight decrease in the membership of schools throughout the state, but this in no way indicated a decrease in interest in the contest. One district dropped competition for this year, although a few of the schools in that district retained their memberships and participated. On the other hand, several of the districts showed a large increase in membership and particularly so in pupil participation. As a result, there was no decrease in participation at the final contest held on the University campus May 5 and 6. Every contest class had large registration, as did practically every district. Seventy-three schools sent representatives in one or more classes. Probably nine to ten thousand pupils participated in the various district contests, and between two thousand five hundred and three thousand came for the finals.

The quality of high school music work seems to continue to improve in the face of a continual increase on the part of the contest in demands made upon student performance. Contest music represents a much higher grade of difficulty as well as of musical quality than it did in some previous years, but schools nevertheless are presenting a better quality of performance in general, and with it a better interest and appreciation. There are a few schools still participating in the contests that do not seem to be sufficiently careful in the choice of their teachers.

The best showing the past year has been made by the smaller schools. They have shown a keener interest and enthusiasm; they have been more numerous in attendance, frequently coming much longer distances than did the larger schools. Perhaps the larger schools with their fairly high attainments cannot be expected to make the same effort and improvement. It is certainly true that the smaller schools have been most in need of something to vitalize their work and bring about the improvements which have been noted. If the contest has done this, it certainly has served an admirable purpose.

There seems to be a slight increase on the part of some schools in the attractions of the non-competitive festivals. A number of large schools in one district withdrew this year from the competition and held several localized music festivals among themselves. The felt need among many of the actively participating schools is for some modification of the competitive process by which the

stimulus will still be retained, while the sting of defeat and discouragement will be removed.

Certificates

By unanimous action of the division staff, it has been decided to cease gradually the awarding of 45-credit certificates to students of the Extension Division in night classes or correspondence courses. In place of these, there will be offered 90-credit certificates in all sequences. These certificates will testify that the holder has completed enough credits in the University to be about the equivalent of two years of university work.

Community Service

The Department of Community Service, under the direction of Mr. H. B. Gislason, offers a report for the radio service in 1931-32 and also a summarized report for the biennium in the Lyceum and Lecture Service, Visual Instruction, and Drama Service.

Radio. During the past year station WLB broadcast a total of 368 separate programs. Programs originated from the main studios of the Electrical Engineering Building and also in the Music Building Auditorium, Northrop Memorial Auditorium, Minnesota Union ballroom, Memorial Stadium, and the Field House.

WLB was on the air a total of 290½ hours. Of this time 138 hours were devoted to programs that may be described as educational; 115 hours were devoted to musical programs; 8 hours were devoted to general programs such as those for Freshman Week, Homecoming Day, Dad's Day, and one or two outstanding convocations, and 29½ hours were given over to broadcasting all home football games and 6 conference basket-ball games.

Outstanding features of the radio programs were:

1. Music appreciation programs
2. History Series—Members of staff of State Historical Society
3. University Symphony Series—ten programs.
4. Miles B. Sery and his concert band
5. University Press dramatic skits
6. Symphony programs—recordings
7. Basket-ball broadcasts
8. Series of talks by members of the Department of Sociology
9. Tales from American Indian lore. Programs for children presented by Lucille Carlson
- 105 faculty members presented 223 informative talks
2 state officials presented 4 informative talks
11 staff members of the Minnesota Historical Society presented 16 talks.

Important among the educational features were the language lessons taught by faculty members in French, German, and Spanish, the agricultural programs, and programs given by members of the Institute of Child Welfare. The music programs, included the Music Appreciation hours for Minnesota high schools, music by faculty members and students, recitals by Professor George H. Fairclough, a number of half-hour broadcasts of Minneapolis Symphony orchestra programs and concerts by the University Symphony orchestra, the Miles B. Sery concert band, and others.

Department of Community Service. There was a flourishing demand during the biennium for the various services of this department which include the Lyceum Branch, which filled 188 engagements in the first year of the biennium and 299 in the second; the Lecture Service, which provided 373 lectures in the first year and 234 in the second; the Department of Visual Instruction, which furnished 525 programs in the first year and 729 in the second; the Drama Service which met 463 requests in the first year of the biennium and 405 in the second.

Correspondence Study

The Correspondence Study Department, under the leadership of Mr. A. H. Speer, is making notable progress in improving the special techniques and methodology in correspondence instruction. Special attention also is being directed to the preparation of the courses to the end that they may be especially adapted to the needs of students who are forced to study in isolation and without the stimulus of classroom emulation. Mr. Speer submits the following report of the activities of his department.

Service increased. During the last two years and especially during the last year, times of economic trouble and irregularity, special attention has been given to the service rendered by this department and its eighty-five instructors. The service of the instructors has been tested periodically by the personal inspection of hundreds of lesson papers returned from them. These papers have shown an increase of suggestions, criticisms, and stimulating helps. These results show that there has been more faithful and conscientious attention to duty. All this is reflected in the percentage of persistency, which not only did not recede in these troublous times but really increased a small amount in 1931-32 over 1930-31.

Status of courses. Correspondence study courses can command respect only when the quality is severely high and faithfully parallels the day courses. This condition has been brought to pass to a high degree, by insistence on a high quality of work in the writing of fifty-one old and new courses in the last two years. Personal contact with deans and professors has increased interest and co-operation, which have been the main factors in reaching this goal.

Registrations in 1930-32. The momentum of consistent and heavy promotion (mostly direct mail) in the years immediately preceding 1931-32 allowed us to finish the year 1930-31 with a gain of 2 1/4 per cent over 1929-30 in new registrations, and the small loss of 1.2 per cent in 1931-32 as compared with 1930-31. There were the same number of "gain" months and "loss" months in 1931-32 as in 1930-31, and if June had showed a gain as it showed in 1931, all losses would have been overcome.

New courses and club study programs. Recent requests for courses have caused the preparation of Pharmaceutical Latin, Chemical German, Elementary Aeronautics, Recent English Novels. Two courses are finished or in process without cost: Engineering Lettering and Polish Composition.

Also there have been prepared club study programs on "A Tour of Norway," "A Tour of Sweden," and "Russia."

Survey of other schools. A survey of correspondence study catalogs of National University Extension Association member institutions together with a few additional

schools, shows Minnesota *low in fees and lenient in rules*. It must be remembered that eight member institutions do not have correspondence study work. Of the total number of schools surveyed (about 40), nine correspondence study departments are on a fee basis equivalent to Minnesota, while 16 ask less for course registration and 16 ask more. The spread of fee amount is greater in the case of those which ask more and less in the case of those which are below Minnesota. Many schools ask special fees of different sorts, which moneys augment their receipts. It may be said that Minnesota is lenient in regard to total registration time allowed; in regard to amount of reinstatement fee; in refund policy; and in transfer policy. The comparisons reveal that there are financial leaks unclosed and resources untapped. It forces the conclusion that Minnesota is justified in raising fees for correspondence study courses, either one way or another, and also in adopting more severe regulations.

General questionnaire of March, 1931. A questionnaire was sent to 712 Correspondence Study Department students, who had live registrations in the files March, 1931. These registrants had progressed eight lessons or more in their courses. Returns to the number of 515 came in.

The full results of this questionnaire are in your hands but it will be proper to recount a few statistics:

The educational caliber of registrants is high, 86.6 per cent having taken one or more years of college work (including graduate students).

70 per cent reported they had received in attention from instructors "as much" as or "more" than they received in residence work.

63 per cent reported worth of correspondence work "on a par" with or "superior" to classes in residence. 98 per cent reported they had put in more working time per credit hour than in residence.

38 per cent reported greater returns, by and large, from their Correspondence Study work.

58 per cent attributed their taking Correspondence Study work to the suggestion or advice of friends.

Library training questionnaire. On account of numerous requests for more courses in library training, the

attempt was made in May, 1931, to find out (1) how the registrants in our present library training courses felt about the worth of the service and (2) what they would take of new courses if these were offered.

31 of the 46 persons returning the questionnaire had taken more or less work in residence in the University of Minnesota Library Training School and therefore could make reasonable comparisons.

65 per cent judged the courses and service to be "excellent" (there were no votes for "fair" or "poor").

Only 2 persons of 46 judged the *general results* poorer than in day courses.

The great majority wished for more courses by correspondence and many offered suggestions of such courses.

Lesson papers received. There has been a consistent increase in the number of lesson papers passed from students to instructor. In the six years from 1926-27 to 1931-32 the numbers were as follows: 1926-27, 22,882; 1927-28, 23,662; 1928-29, 26,794; 1929-30, 29,922; 1930-31, 29,708; 1931-32, 30,251. The latter number occurred, it must be remembered, in a year when there was a slight decrease in new registrations and total registrations.

Geographical distribution of registrations. The 4,132 registrations of 1931-32 were scattered over 38 states, the District of Columbia, and 6 foreign countries. Minnesota registered about one third of the total as usual, while the neighboring states had large enrolments, the largest number, 72, being in Wisconsin. Alaska furnished 1 registration; Canada, 6; Hawaii, 2; India, 1; Jamaica, 1; Philippine Islands, 1.

Complete and detailed statistical tables of all the activities of the division for each year are on file in the office of the division and may there be consulted by any interested person.

Respectfully submitted,

RICHARD R. PRICE, Director

The Summer Session

To the President of the University:

Sir: I take pleasure in transmitting to you herewith the report of the Summer Session from July 1, 1930 to June 30, 1932. This report is intended to cover the activities of the Summer Session as a whole between those dates.

Eighteen administrative divisions of the University participated in the Summer Session.

The Summer Session has become a center of activities that departs materially from the earlier concept of summer school work. It is no longer an institution intended primarily to prepare teachers for a better certificates rating and higher pay, or to enable deficient students to make up back work. Courses are now offered in nearly all departments of the University. These courses are designed for students representing all grades of academic achievement. The growth of the Summer Session has been especially

healthy in the Graduate School and in the future more attention will have to be devoted to this type of work. In addition, new curricula and experiments that cannot be undertaken in the regular school year are tried out in the Summer Session. We are striving and must continue our endeavor to make the Summer Session more attractive to an increasing number and variety of students. Our growth and spread of activities place an increasing responsibility for detail in the Summer Session on the deans of the various schools and colleges of the University. The duties of the director are becoming more and more those of administration in a general supervisory way rather than in detail. It becomes more apparent with each successive year that the time has probably arrived when the summer quarter should be conducted in the same manner as any other quar-

ter of the year. The summer schedule, under the present program of two terms, is crowded and too little time is allowed for study and outside reading on the part both of the instructional staff and the student. To offset this situation, the weekly program has been changed from 5½ days to 5 days with some success, but, in the opinion of the writer of this report, the difficulty will never be entirely overcome until the Summer Session is placed on a quarter basis as it now is in the Medical School and certain departments in Agriculture.

The methods used in experimenting in new fields and making our summer session work attractive to our students are best illustrated by the special projects program. New curricula and experiments of various kinds are tried out in this way in the Summer Session to find out what new courses can be offered with advantage to teachers, superintendents, and principals, and to college alumni, and other mature men and women taking college work merely for its cultural value as well as to persons adding to their training in the professions and special fields of industry. The special projects for the Summer Session of 1930 have already been reported in the biennial report of 1930.

Special projects for 1931. In the Summer Session of 1931 there were four special projects:

1. A Symposium on the Foundation of Educational Thinking. This symposium was conducted under the leadership of several scientists nationally known in their respective fields. The fields covered were psychology, biology, and mathematics. Lectures were given each school day in Burton Hall at 12:00, noon, by authorities in these fields. The lectures were open to both student body and the public without charge and credit was granted to those students who registered specifically for Education 216su. The lectures were designed to provide a broad outline of material indispensable to anyone who wished to deal with educational matters in a fundamental manner.

2. A Conference on Education for the Federal Service was held in co-operation with the United States Civil Service Commission, the Federal Trade Commission, the United States Department of Commerce, and the Political Science Association. This conference provided a means of contact between authorities of American universities and of the United States Government to discuss common responsibilities with respect to the training and recruiting of university graduates for the national service. As a result of the discussion, the responsible authorities of the national government became better acquainted with the problems of the universities and university authorities saw more clearly the problems which confront the United States authorities in recruiting for the national service.

Opportunity was afforded to consider the following questions among others: (1) the career aspects of the national civil service for college and university graduates; (2) student and faculty attitudes towards the public service; (3) the functions of the universities as centers for training for the public service and resulting problems of curricula; (4) the courses now offered by colleges and universities as training preparatory to entrance into the national service; (5) existing methods of informing qualified students regarding vacancies in the national service; (6) the form and content of the specifications promulgated by the national government relative to the training required for various positions; (7) types of examinations now given

by the United States Government for entrance into the service; (8) salary ranges, opportunities for promotion, and other conditions affecting the career aspects of the national service; and (9) possibilities for pursuit of graduate work within government departments.

While some attention was given to the entire range of employment in the national service, the conference paid particular attention to the following fields of work: economics and statistics, law, agriculture and forestry, physics and chemistry, social welfare, engineering, and the consular and diplomatic service. The University has published a complete report of this conference.

As the result of preliminary work, information will be made available, showing the number, status, and salaries of professional, scientific, and technical positions now existing in the national government service, the qualifications for entrance to these positions and the types of test and examinations, and the courses in leading American universities which point directly to the public service as a career.

3. A Round Table in Music and the Dramatic Arts. The University of Minnesota in the first term of the 1931 Summer Session offered a special round table in the dramatic arts from June 15 to July 25. The round table was held especially for high school directors of dramatic and musical productions. An effort was made, through six weeks of intensive study and experiment, to supplement existing knowledge of ways and means for staging and stimulating successful high school productions. Students registering and taking part in the round table received credit as in other course work.

As a part of the laboratory work, and as a supplement to the lectures and conferences, three major productions were staged in the Cyrus Northrop Auditorium, a musical production, "The Vagabond King," directed by Professor Killeen, with Paul Keast and Zamah Cunningham, of Chicago, as guest stars, on July 10 and 11. The first dramatic production, given on July 2 and 3, was "Marco Millions." This production was given under the direction of Professor Raines, with Ernest Lawford and Edward Fielding as guest stars. The third production produced on July 16 and 17, was "L'Aiglon," with William Faversham, Edward Fielding, and Ernest Lawford as guest stars.

In accordance with tested practices at the University, all parts, except the "leads" were filled by students registered in the Summer Session. Those registered in the round table had opportunity to take part in those phases of production for which they were qualified. The round table consisted of a series of informal discussions led by staff members and visiting lecturers.

The result of this project was that not only did the dramatic directors in the round table go away with better and more modern ideas of play production, but also our students received an inspiration to greater effort in dramatic accomplishments, the effect of which has been noticeable throughout the year in all our dramatic productions.

4. Special lectures in mathematics. During the entire Summer Session of 1931, the University of Minnesota gave special attention to mathematics by means of (1) special lectures during both terms of the regular summer quarter, (2) the mathematics section of the Summer School for Engineering Teachers, sponsored by the Society for the Promotion of Engineering Education, from August 24 to September 5, and (3) the joint meetings of the American Mathematical Society, and the Mathematical Association of America from September 7 to 11. Professor Griffith C. Evans, of Rice Institute gave a course on Mathematical

Theory of Economics during the first term of the summer quarter beginning on June 15, and a course on Potential Theory during the second term beginning on July 25. Dr. R. A. Fisher, of the Rothamsted Experimental Station, Harpenden, England, gave courses on mathematical statistics during the second term.

These lectures were of particular interest in pointing the applications of mathematics to the solution of the problems of everyday life, as well as to pointing out the weaknesses in our methods of teaching the mathematical subjects.

Special projects of the Summer Session of 1932. Owing to the necessity for economy, the special projects for the Summer Session of 1932 were confined to three in number.

1. A continuation of the Symposium on the Foundations of Educational Thinking. The success of the first series of lectures under this general heading encouraged the offering of a second course of lectures during the summer quarter of 1932. The second symposium covered those phases of sociology, economics, government, and business administration which are basic to intelligent decision concerning crucial educational issues. The lectures for 1932 are designed, as were those in the summer of 1931, to provide a broad outline of material indispensable to anyone who wishes to deal with educational matters in a fundamental manner. This symposium was so arranged that it might be followed as a course during the first term of the summer quarter of 1932. The attendance at the lectures and interest exhibited on the part of the students indicate that such experiments are entirely worthy of the effort and expense involved.

2. The 1932 Symposium in Music. At the request of the Department of Music, funds were provided for a symposium in music during the first term of the 1932 Summer Session. This symposium consisted of a daily series of lecture demonstrations at 3:00 p.m., in the Music Auditorium. The symposium was intended especially for music students, teachers, and supervisors but it was of interest to all who appreciate music. Attendance at a part of the lectures was required of all who were registered in the Music Department for the Summer Session. All lectures were open without charge to all who were registered in any department of the University during the Summer Session. As many as possible of the general public were admitted after the students were seated.

In addition to this feature, Mr. Killeen and the University Singers presented the grand opera, "La Boheme," in Northrop Memorial Auditorium on July 7 and 8.

3. Lectures on parliamentary law. General unfamiliarity with the proper methods of parliamentary proceedings and popular demand for instruction on this subject led to an experimental trial of a course without credit in parliamentary law. Such a course has been conducted with

success in the General Extension Division and accordingly the services of the instructor, Mr. Edward Hawley, were secured for a trial course in the first term of the 1932 Summer Session. Though it was offered without credit and sponsored by no department, it proved more popular than some of the credit courses.

Convocations, 1931. The convocations held at 10 a.m., were especially well attended and appreciated. The speakers appearing on the convocation programs were, Dr. Albert E. Jenks, anthropologist, University of Minnesota; James C. Lawrence, university dean, University of Minnesota; Carl Sandburg, poet, Chicago; Lotus D. Coffman, president, University of Minnesota; Honorable Thomas E. Campbell, former governor of the state of Arizona and president of the United States Civil Service Commission. Leo E. Owens, '11, M.E., publisher, *St. Paul Pioneer Press-Dispatch*, gave the commencement address. No convocations were held in the second term.

Convocations, 1932. The following convocation speakers were secured for the first term of the 1932 Summer Session: James C. Lawrence, university dean, University of Minnesota; Miss Maud Scheerer, dramatist, New York City; Dr. Clyde Fisher, curator, American Museum of Natural History, New York; Major Thomas Coulson, of the British Intelligence Service, Philadelphia; Countee Cullen, negro poet and novelist, New York City. George F. Arps, dean of the College of Education of Ohio State University, gave the commencement address.

Recreation, 1931. The usual recreation program of athletics, dramatics, and educational inspection excursions was carried on in both sessions. Mr. W. R. Smith resigned as director of recreation to take charge of the golf course and Mr. Lloyd W. Peterson was appointed to fill the vacancy. The popularity of our recreation program warrants its continuance as a feature of both terms of the Summer Session.

Recreation, 1932. Owing to the resignation of Mr. Lloyd W. Peterson to accept another position, Mr. Ralph A. Piper was appointed director of recreation. The program of previous years has been ably continued under his direction and the popularity of the program increased in spite of the effects of the economic depression. Attendance at our dramatic recitals and plays as well as at the social evenings and on the recreation field has steadily increased. The entertainment features of the dramatics and of the Music Symposium have been treated as a part of the recreation program and have been well received to the benefit of both features of our Summer Session.

Respectfully submitted,
T. A. H. TEETER, Associate Director

The University College

To the President of the University:

Sir: I have the honor to submit the report of the University College for the biennium, 1930-32.

A persistent and often justifiable criticism of large universities is that they tend to sacrifice the best interests of many unusual students to safeguard an institutional machinery geared to care efficiently for large numbers of students. By an unusual student I mean one who differs markedly from the average either in intellectual capacity, in previous training or experience, in cultural background, in professional aim, or otherwise. In general the colleges of large universities have found it necessary to advise their students collectively, rather than individually, by formulating for them certain curriculum requirements. These are designed to give the student that breadth and depth of training which may stamp him as an educated man in some one of a number of definite fields of intellectual or professional interest. In the great majority of cases this advice is sound but there can be no doubt that in many individual cases it is not the best. Provision must be made for exceptions.

In the first place our civilization is changing rapidly by the acquisition of new knowledge and by new integrations of knowledge. As a result society has from time to time need for men trained along lines not contemplated in any established curriculum. The university should be a leader in recognizing these needs. It should give careful consideration to students who have unusual intellectual or professional interests and, if it seems wise, permit them to realize their ambition by giving them the necessary freedom in choice of subjects to be studied.

In the second place students differ widely in intellectual capacity, in previous training and experience, in social and cultural background. Those subjects which one student may properly be urged to study are not necessarily the ones best suited to the proper development of another.

A university organized on strictly college lines can go a long way toward caring for its unusual students. The colleges of the University of Minnesota have done so as is evidenced by their liberal attitude in permitting exceptions to their curriculum requirements and by their establishment of a number of intercollege curricula. On the other hand in caring for these students they are faced with a number of unavoidable difficulties. Where the desired curriculum involves courses of study in two or more colleges, questions of college jurisdiction and responsibility prove troublesome and make such a curriculum possible only after the need for it has been realized for some time. Again, even when the curriculum involves only one college, considerations having nothing to do with the merits of the individual case may operate unfavorably. The colleges, particularly the professional ones, feel that their degrees should be a certification to society in general

and to prospective employers in particular that their graduates have had certain specified and standardized types of training. They are therefore loath to permit deviations from their curricula which endanger the accepted significance of their degrees, even though they may believe that for individual students such deviations are desirable.

For these and other reasons it has seemed advisable to the administration of the University of Minnesota to establish an all-university agency to examine and take action in the cases of those unusual students for whom the individual colleges find it difficult to care. On June 28, 1930, the regents of the University adopted the following resolution:

Voted that the President of the University is hereby authorized to create a committee consisting of representatives of the various schools and colleges of the University which shall have power to approve modifications of or substitutions in individual students' curricula with the provision that the modifications or substitutions thus authorized shall be accepted for credit towards degrees, and further that the committee shall have the power to determine its own modes of procedure and rules of action subject to the general laws and regulations of the University with the understanding that all modifications of the programs of individual students shall be filed with the registrar of the University.

On August 16, 1930, the president appointed a committee of twenty-three representatives of the schools and colleges of the University to carry out the provisions of this resolution.

In the two years ending with the spring quarter, 1932, the committee has considered the cases of about 300 students and has registered 73 under its auspices. Of these, 31 have been graduated, 20 with the B.A. degree and 11 with the B.S., 1 with the *summa cum laude* honors and 8 with distinction. The average enrolment during the past year has been 44 per quarter and I do not anticipate that this number will increase very greatly in the future.

It will be seen from the above figures that the committee has acted favorably in only one fourth of the cases considered. The majority of students come to us simply because they want, for no valid reason, to avoid taking the sound advice of their colleges. In many other instances we have been able to point out how the student may have his needs cared for by his college without change of registration. Our greatest difficulty is of course to judge the merit both of the individual and of his proposal. Criteria for such judgments are notoriously lacking and we have therefore been compelled to fall back upon the integrated judgments of the two or more members of the committee who examine each case.

In looking to the future we have assumed that it is our duty fully to document the cases we are handling so

that our experiences may be of value to the colleges of the University in any future studies they may wish to make of the desirability of introducing new curricula or of modifying or permitting modifications in the old. It is our hope that our experiences will stimulate such studies

and that the resulting actions may make it unnecessary for the University College to handle more than a small fraction of the number of students now enrolled.

Respectfully submitted,

J. T. TATE, Director

The Institute of Child Welfare

To the President of the University:

Sir: I submit herewith my report for the two-year period 1930-32.

During this period the outstanding development in the work of the institute has been the increased service rendered the people of the state through the enlargement of the parental education program. During each year of the biennium over 14,000 parents were reached through our parental education activities—almost twice the number reached in similar previous periods. Not only did the parental education program of the institute cover the three major cities of the state—Minneapolis, St. Paul, and Duluth—but it reached out into a large number of smaller communities, cities, and towns and into the rural areas as well. In addition to this striking development in the parental education program the institute initiated a number of new research projects, conducted a series of successful radio broadcasts, and developed a series of articles on child care and training widely used by newspapers of the smaller communities within the state. Moreover there was a marked increase in the number of students enrolled in institute courses and in the services rendered both by the institute staff and by the students completing our courses as they moved out to take places in the various communities of the state.

The Nursery School and Experimental Kindergarten. The Nursery School was in full day session during the academic years 1930-31 and 1931-32 and in half-day session during the first of the Summer Session of 1930 and 1931. The enrolment was maintained at 36 with an age range of from two to five years.

The experimental kindergarten was in session during the academic years 1930-31 and 1931-32 and the first terms of the Summer Sessions of 1930 and 1931. The enrolment varied between 40 and 50 from term to term. Both the Nursery School and the kindergarten were used extensively for observational and demonstration purposes, for the conduct of research projects, and for the training of teachers and workers.

Research. During the two-year period the institute was very active in research. Thirty-eight new projects have been undertaken, the subjects of which are on record in your office.

In Table I, a summary of the research projects by departments is presented.

TABLE I. SUMMARY OF RESEARCH PROJECTS BY DEPARTMENTS

Anatomy	27
Dentistry	5
Pediatrics	20
Psychology	15
Home Economics	9
Physiological Chemistry	2
Education	10
Sociology	15
State Board of Control.....	7
Physical Education for Women.....	1
Institute of Child Welfare.....	92
	203
Less duplication caused by projects in which two or more departments are involved.....	15
	188

The institute has maintained its co-operative relations with other university departments. The series of projects involving the study of infants begun in 1927 have been completed and the results are being published as rapidly as possible. Of especial note are the projects involving the study of foster children organized in conjunction with the Department of Sociology and the State Board of Control.

Instruction. While there has been no increase in the number of courses offered, the number of students enrolled in institute courses has increased by a fourth during the biennium over the previous two-year period. Courses are offered at three levels, general courses for undergraduates, specific training courses for nursery school and kindergarten teachers, and courses for graduate students looking toward college teaching, research, or parental education.

During the year 1930-31, 18 students completed the curriculum in nursery school and kindergarten education receiving their B.S. degrees in the College of Education, and in 1931-32 the number was 19.

The amount of graduate work in the institute has likewise increased, not only as represented by students who are candidates for the M.A. or Ph.D. degrees with majors in child welfare, but also in the number of students minoring in child welfare or utilizing institute

material for their theses with majors or minors in other departments.

In the summer of 1930, five fellows, in the academic year 1931-32, one fellow, and in the summer of 1931, five fellows from the National Council of Parent Education were in attendance at the institute. Many persons, some from foreign countries, many from outside the state and many from within the state have visited the institute.

Parent education. In its service of disseminating information to the people of the state, particularly to parents, the two-year period shows striking development over previous years. Four main types of activity are included: extension courses for credit, correspondence courses both for credit and not for credit, study groups, and agricultural extension projects.

Table II presents a summary of the parent education activities during the biennium.

TABLE II. GENERAL SUMMARY OF PARENT EDUCATION ACTIVITIES

	1930-31		1931-32	
	NO. GROUPS	ENROLMENT	NO. GROUPS	ENROLMENT
Extension courses				
Credit	3	70	5	56
Correspondence courses				
Credit	(2)	29	2	26
Non-credit	(2)	6,889	(1)	7,892
Study groups				
Minneapolis	24	545	25	537
St. Paul	36	781	39	892
Duluth	23	451	3	799
Towns and small cities.....	31	736	33	1,062
Agricultural Extension	139	1,986	136	1,834
Total enrolled	256	11,487	267	13,098
Visitors		2,569		3,646
Total persons reached.....		14,056		16,744

As compared with the last report, we find the number of persons reached through every phase of the parent education program decidedly increased. In 1928-29 a total of 4,955 persons, and in 1929-30 a total of 8,790 persons were reached as compared with 14,056 and 16,744, respectively, for 1930-31 and 1931-32.

The topics considered in study groups are shown in Table III.

TABLE III. TOPICS OF STUDY GROUPS

	1930-31	1931-32
Preschool	44	38
School	35	33
Adolescent	35	37
Combination .....	..	18

In the conduct of its extension activities the institute cooperates with many agencies. In Table IV a brief summary is presented showing the nature of this co-operation. Although the parent-teacher associations furnished the

great majority of contacts for developing study groups, nevertheless other agencies in the community play an important part.

TABLE IV. STUDY GROUP BY AUSPICES

	1930-31	1931-32
Parent-Teacher Association	92	96
College clubs	1	1
Churches	9	9
Settlements	2	1
Home center	1	0
Y.W.C.A.	2	5
Others, including evening schools, women's clubs, etc.	7	14
	114	126

An increase in the number of traveling libraries in use in connection with the parental education program occurred. In 1930-31 the number of traveling libraries was 75, and in 1931-32, 91.

Miscellaneous activities. In co-operation with the University Radio Station WLB a series of talks on Child Care and Training was given during each of the three quarters of the academic years 1930-31 and 1931-32. In the year 1930-31, 30 such talks and in 1931-32, 33 such talks were given, in 1930-31, 10 of the talks were repeated and in the year 1931-32 the entire series of 36 talks was repeated over WEBC at Duluth.

The institute during the biennium participated in many exhibits among which the most notable were those at the State Fair, the state meetings at the Minnesota Congress of Parents and Teachers, and the national meeting of the Congress of Parents and Teachers in Minneapolis. It also co-operated in other ways with many organizations and agencies. Many single lectures were given by members of the institute staff, 135 being given during 1930-31 and 160 during 1931-32.

Publications. The two-year period was very active in publication. During the biennium 58 scientific articles appeared in various journals in a number of scientific fields. Three major monographs appeared, published by the University of Minnesota Press, of which Monograph V is by Ruth Atkins entitled *The Measurement of Intelligence of Young Children by an Object Fitting Test*; Monograph VI by Mary Shirley, is entitled *The First Two Years: A Study of Twenty-Five Babies*, (1) *Postural and Locomotor Development*; and Monograph IX by Florence L. Goodenough is entitled *Anger in Young Children*. *Child Care and Training* by Foster and Anderson published by the University of Minnesota Press has gone into its third edition. Professors Goodenough and Anderson completed their *Experimental Child Study* which is published by the Century Company. The manual for the Minnesota Preschool Scale with its accompanying test materials was published in 1932 by the Educational Test Bureau of Minneapolis. Special effort has been made during the biennium to bring publication of research up to date. A number of articles are now ready for the press, and two more monographs are on the press.

Conclusion. The biennium has been one in which the institute has given marked service to the community and the state through the extension and development of its parental education program; to the University through its instructional and training program and to the field of

child welfare and the science of child development through its manifold researches.

Respectfully submitted,

JOHN E. ANDERSON, *Director*

Division of Library Instruction

To the President of the University:

Sir: I submit a summary report on the Division of Library Instruction for the academic years, 1930-31 and 1931-32.

As the resolution of the Board of Regents establishing this division states, its purpose was to furnish training in Library Methods for the various types of students at the University of Minnesota and by implication to serve as the center for library instruction in the state. At the conclusion of the fourth year of its existence it seems fair to say that the division has served its purpose well. The attendance has included representatives of practically every institution of higher education, except a few of the church colleges, and from a considerable number of other states as well as from Canada and Czechoslovakia. Graduates and former students of the course hold, or have held, positions in seventeen states, the District of Columbia, and Norway. These have been in public libraries of various kinds, in several special libraries including United States departmental libraries, and in colleges and universities. Until the summer of 1931 there was little difficulty in placing competent graduates in fairly good positions. Since that time we have suffered from the effects of the depression in common with similar conditions prevailing in other schools and departments in the University.

Students from six schools and colleges of the University have registered with the departments. An encouragingly large number of these have been honor students and

several have been elected to membership in Phi Beta Kappa. The curriculum has been planned with a view to giving teacher-librarians, unable to take a complete year of training, a good basic course in the essentials of school library administration. The courses in Library Methods in the Summer Session have been planned to be as nearly as possible equivalent to those given in the regular session. The students are thus assured of a minimum of loss of time in getting the best training possible under individual conditions. There is reason to believe that considerable economy has been effected by having this department act as a central state training agency and that the multiplication of courses in other institutions not as well equipped to give it has been checked and an oversupply of partly trained people is diminished if not entirely averted.

It may be appropriate to state also that this has not cost the University anything in the way of direct appropriations and that every year it has turned back a balance to the general fund. In some ways this is regrettable, as better faculty conditions are highly desirable by the addition of more instructors who could insure smaller sections and more individual attention in the laboratory courses. It does, however, indicate that the department is a going concern and not a costly financial experiment

Very respectfully submitted,

FRANK K. WALTER, *University Librarian*

Special Functions in Behalf of Students

The Student's Health Service

To the President of the University:

Sir: I have the honor to submit herewith a report of the activities of the Students' Health Service during the academic years 1930-31 and 1931-32.

During periods of economic distress the need of any group for health service increases, and the preventive aspects of medical work assume special importance because they assist the individual to conserve or improve his health, always his most valuable asset and in hard times doubly essential. However, during these periods the need for diagnostic and therapeutic services also increases; for when resources diminish people frequently find it necessary to go without the food, recreation, and medical and dental care essential for good health. For similar reasons free clinics and agencies which offer medical service on an insurance or annual fee basis are confronted with great increases in the number of requests for service. The Health Service of the University, an organization of this latter type, has experienced during the last biennium and particularly during the past year such increased demands from students. These greater demands are giving rise to certain administrative and financial problems but, since they represent greater service to the student body during a period of acute need, adjustments are being made and will continue to be made to provide as much service as is necessary.

The service provided for students by this department consists of a complete examination of every student at the time of matriculation in the University; a personal conference during the fall quarter with each student who received an examination upon entrance—this conference is for the purpose of individualizing the entrance examination and rechecking or following up abnormalities which were noted at that time; a dental examination as part of the entrance physical examination and at such subsequent periods as may be desired; health examinations required annually for students in certain of the professional schools and available on a voluntary basis for any student at any time; assignment to physical activities and adjustment of scholastic programs in accordance with physical capacity; certification as to physical fitness for competition in inter-collegiate athletics; medical service at any hour of the day or night; preventive vaccinations and inoculations at specified times; hospitalization for students who need bed care; emergency service of all kinds, and consultation in regard to personal and emotional problems, worries, etc. with a psychiatrist who is devoting his full time to this work. In addition to this personal service to students, all food handlers at the University cafeterias are examined by the Students' Health Service in order to be certain that they are not infected with diseases that may be transmitted to others; the water of the swimming pools is analyzed frequently, and the general sanitation of the campus is supervised.

Periodic health examinations, which for the university students begin with the entrance physical examination, are probably the most constructive and far-reaching service which this department is rendering. The physical defects and incipient diseases discovered by means of these examinations would more than justify their inclusion in the health service program, but they represent in addition a most effective instrument of health education.

These periodic health examinations, which include health conferences, are available to any student in the University and have been made an annual requirement by the faculties of the Colleges of Education and Dentistry and the School of Medicine. Annual examinations are required of students in athletics, in certain programs of physical education, in home economics training courses, in mine rescue work, etc. In 1930-31, 8,535 students of collegiate grade (74 per cent of the total enrolment) and in 1931-32, 8,283 students (71 per cent of the total enrolment) received health examinations. Some of the more important conditions discovered by means of these examinations have been tuberculosis, diabetes, high blood pressure, color blindness, defective hearing, cancer, focal infections, emotional instability, and defective vision.

Mental hygiene. The stress and strain of modern life increase enormously the emotional problems of the average individual, and as a result the number of patients in hospitals for mental illnesses is constantly increasing. The social and economic burden on society of these unfortunates is enormous.

Fortunately, many mental illnesses can be prevented if the emotional conflicts basic to them are recognized early and proper therapy is instituted. To do this is the objective of mental hygiene. In colleges, mental hygiene service is especially important because most college students are passing through the tumultuous period of adolescence; are breaking home ties and making independent decisions for the first time in their lives; and are evaluating and modifying fundamental ideas and ideals.

During the past four and a half years our Students' Health Service has had on its staff a psychiatrist who devotes his full time to mental hygiene service. During the past two years he has been assisted by a psychiatric social worker on half time. His appointment hours have always been taken weeks in advance and the number of students who consult him continues to increase. Most of these students come voluntarily.

The great majority of his student patients are not disturbed enough to be sent to hospitals but their emotional problems are often sufficiently severe to interfere seriously with the efficiency of their school work and with their happiness in contact with other students. Unhealthy family situations, poor social adjustment in college, scholastic

problems resulting from inadequate preparatory work and occasionally poor intellectual endowment, sex conflicts, problems arising from excessive extra-curricular activities, vocational guidance, financial problems, and emotional disturbances arising from physical defects make up the bulk of the work.

During the past year we have seen three cases of fairly well developed schizophrenia (*dementia praecox*), two manic depressive psychoses, and eight cases diagnosed as neuroses of the obsessional or compulsive type. There have been many threats of suicide by students under the care of this department, but only two actual attempts at suicide, neither of which was successful. (Quoted from Dr. de Berry's report to the director of the Health Service).

Such service is life-long in its significance to the individual, to his family, and to society.

Tuberculosis control. Although tuberculosis has been reduced to fifth place as a cause of death for all ages taken together, it still occupies first place for persons of college age. In past years at the University of Minnesota numerous cases of this disease have been discovered every year by the Health Service, but unfortunately most of them were in an advanced stage before they came to our attention. This meant that the patients' chances of recovery were much reduced, and that many had been infectious to others before they were removed from contact with the student body. The importance of the tuberculosis problem in colleges has long been recognized, but symptoms and physical signs failed to reveal the early cases. For several years other procedures to accomplish the early diagnosis of this disease have been tried on small groups of students by our Health Service, and on the basis of this experience, during the past year an intensive program for early diagnosis was outlined and put into operation.

This program consists of a tuberculin test as a part of every health examination and an X-ray of the chest of all students who show reactions to the tuberculin. This test, for which the Mantoux technique is used, identifies those individuals who at some time have been infected with tubercle bacilli. In the past it has been supposed that by the age of twenty practically every person is infected with tuberculosis, but our results on these tests indicate that only about one third of our students have been infected. A positive reaction to the test, although indicating infection, gives no information as to whether the tuberculosis process is active, arrested, or healed. Hence the X-ray is used to determine whether or not those who react to tuberculin have any actual disease of the lungs.

As a result of this routine practice during the past year three students were discovered to have far advanced tuberculosis, eight to have moderately advanced processes, and fourteen to have incipient (early) disease. The three advanced cases, six of the eight with moderately advanced, and three with incipient disease were advised to cancel their registrations and place themselves under treatment. Others were permitted to continue in the University with modified programs and under the supervision of the Health Service.

The value of this project has already been demonstrated

beyond question because whenever tuberculosis can be diagnosed and treatment instituted before physical breakdown occurs the students infected will be saved from years of invalidism, and possibly from death itself, and other students will be protected from infection.

Discovery of syphilis in students. To discover whether it was desirable to include the Wassermann test in all health examinations, this test was added experimentally just before the beginning of the biennium covered by this report, the staff having decided to investigate the incidence of syphilis among the student body. After five thousand of these tests had been performed the results were analyzed. It was found that they had led to a diagnosis of syphilis in ten students—five men and five women. None of these ten was aware of the infection and nine of them were in a stage in which cures could be accomplished and permanent damage and disability prevented. The other case, a woman of about 50 years of age, was placed under treatment immediately but died of the disease within a year. In most of these cases the infections were hereditary or innocently acquired.

This incidence of syphilis, two tenths of 1 per cent, is extremely low when considered in comparison to the estimated incidence of from 2 to 10 per cent for the general population. However, since syphilis is a disease which progresses insidiously until late degenerative changes occur, even though the percentage of students who have this disease is small, there is no doubt that the Wassermann test should be continued as a part of every health examination.

Health instruction. The informal education which students receive at the Health Service is probably of greater ultimate value than is the medical care given them. Here students learn to live hygienically, to have periodic health examinations, to correct physical defects, to appreciate competent medical attention, and to seek it promptly when they become ill.

Hay fever and asthma. Hay fever and asthma, two manifestations of allergy, cause so much disability among both students and the general population that allergy has been made a subject of special study by one of the members of the Health Service staff. Painstaking tests and experiments with the pollens and proteins which cause allergy have been made and when indicated, desensitization has been carried out. With the co-operation of the Department of Botany, counts of the pollens in the atmosphere are being made in certain sections of the state. The results of this work have been very encouraging and will have wide application.

Nutrition service. The records of insurance companies indicate that persons who are markedly overweight or underweight have a shorter life expectancy than those whose weight is within the range of normal; and medical experience shows that such persons are particularly likely to develop certain diseases. For these reasons the Health Service has been devoting study and attention to students with nutritional problems. Careful examinations of underweight and overweight students are made to determine whether there is any physical cause for the abnormal weight; if not, their customary diets are analyzed and corrected and the effect upon nutrition and health is noted.

From these studies we are gaining more accurate information concerning the relation of weight to health and are attempting to build standards of optimum weights for young adults.

Diabetes prevention. A health problem of increasing importance is diabetes, the mortality rate of which is on the increase in spite of insulin as a specific form of treatment. In the urine examinations of college students small amounts of sugar have been found but unless the finding has been persistent no importance has been attached to it. During the past year, however, every student whose urine showed even a trace of sugar has been studied exhaustively as to sugar tolerance and a considerable number have been discovered to have a diminished ability to metabolize carbohydrates. This condition which is probably a minimal or potential diabetes is being studied and the effect of diets to control its progress are being observed.

Treatment of dysmenorrhea. The greatest single cause of disability and loss of time from school or work by young women is dysmenorrhea. Theories as to its cause and prescriptions for its treatment are so numerous and so varied that none are dependable. For a study of this condition college girls make an exceptionally favorable group because they are available over a period of years, co-operative in carrying out treatment, and intelligent in interpreting results. For several years the gynecological department of the Health Service has been studying this condition and evaluating various forms of treatment. When the study is complete and conclusions drawn they should be of widespread interest and value.

Medical service to students. The first responsibility of the Health Service is to provide for students the medical care which they happen to need. In order to do this the Health Service makes available the services of physicians in general medicine and in the various specialties, and such services are available to students any hour of the day or night. For major surgery or prolonged medical attention students are encouraged to obtain the services of private practitioners but the Health Service will provide for students whatever medical or surgical service is essential for their welfare. Physicians of the Health Service staff will also make calls upon students in their rooms but for continued bed care by the Health Service students must enter the Health Service hospital.

The total amount of service rendered to students has increased continuously over a period of years until in 1930-31 and 1931-32 the number of services exceed a hundred thousand. This increase was not only in total services but also in proportion to student enrolment.

The work of the out-patient department of the Health Service is most important in the prevention of diseases among the student body, for when students report here upon the first appearance of symptoms the possibilities of preventing the development of serious illnesses as well as of restricting the spread of communicable diseases is greatly increased.

Hospital care of students. During the past biennium and especially during the past year the number of students admitted to the Health Service hospitals and the number of prolonged serious illnesses cared for have been greater

than ever before. Probably the chief reasons for these increases have been the financial limitations of students and their families and the better hospital facilities provided by the Health Service. Table II shows the actual and relative number of student hospital patients and hospital days over the past eleven years. As will be seen from this table there is each year approximately one hospital admission for every ten students and one hospital day for every two students.

TABLE I. VISITS TO THE HEALTH SERVICE (MAIN CAMPUS) FOR MEDICAL ATTENTION†

Year	Number of Visits	Average Visits per Student of Collegiate University Grade
1918-19	8,167	1.42
1919-20	12,179	2.01
1920-21	15,975	2.51
1921-22	16,921	2.47
1922-23	20,406	2.74
1923-24	23,106	2.96
1924-25	23,762	2.95
1925-26	24,036	2.78
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

* In this tabulation the attendance at the out-patient clinics at the agricultural substations has not been included, because these groups are so greatly affected by periodic epidemics, that for purposes of comparison they are not nearly so satisfactory as the group which is served by the Health Service on the main campus. The Summer Session figures also have been omitted for various reasons.

† 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.

TABLE II. STUDENT HOSPITAL ON MAIN CAMPUS

Year	No. of Patients	Rate per 1,000 Students Registered	No. of Hospital Days	Av. Length of Hosp. Stay per Patient in Days	Comments
1921-22	684	99.9	3,263	4.8	Measles epidemic
1922-23	861	115.7	3,180	3.7	Influenza epidemic
1923-24	736	96.0	2,429	3.3	Moderate influenza epidemic
1924-25	560	69.6	1,954	3.5	Smallpox epidemic
1925-26	675	78.3	2,400	3.6	Some scarlet fever
1926-27	583	63.8	1,940	3.3	No epidemic
1927-28	650	68.6	2,423	3.7	Moderate epidemic mild influenza
1928-29	750	76.3	2,634	3.5	Extensive epidemic mild influenza
1929-30	880	85.6	4,426	5.0	No epidemic
1930-31	895	77.9	4,885	5.5	Moderate epidemic influenza
1931-32	1,185	102.2	6,364	5.4	Moderate epidemic influenza

The hospital facilities for the care of students at the University of Minnesota are of the very best and are utilized freely by students. Every year parents who come to visit student patients in the Health Service hospital express their appreciation and gratitude for the fine facilities and care provided for their sons and daughters attending the University. Early hospitalization of all students who are ill is an essential part of an effective student health program, because early bed care minimizes the danger of communicable diseases spreading throughout the university community and frequently the development of serious complications from relatively insignificant primary infections.

Serious illnesses of students. During both years of this biennium moderately extensive epidemics of influenza were prevalent upon the campus during the winter quarter. On both of these occasions all beds of the Health Service hospitals were occupied and it was necessary for the Health Service to use a portion of the University Hospital. The location and physical arrangement of the new Health Service Building made this expansion easy. During the winter of 1931-32 the cases of influenza were more numerous and serious complications more frequent than in 1930-31. In each year a few cases of scarlet fever, chickenpox, and mumps occurred but none of these diseases reached epidemic proportions.

During 1930-31 the number of cases of the more serious illnesses cared for in the Health Service hospital were: appendicitis with appendectomy, 34; bacteremia, 3; endocarditis, 5; fractured bones, 14; acute respiratory infections, including influenza, 205; mastoiditis with mastoidectomy, 2; otitis media, 10; pneumonia, 16; sinusitis, acute, 30; tonsillitis, acute, 26; tonsillectomy, 37; tuberculosis, 4; typhoid fever, 1. During this year 3 deaths occurred among students under the care of the Health Service: one from septicemia following a cellulitis of the neck; one from cerebral hemorrhage; and one as a result of a reaction to the anesthetic administered for a tonsillectomy.

During 1931-32 the number of cases of the more serious illnesses were as follows: appendicitis with appendectomy, 34; bacteremia, 2; bronchiectasis, 8; endocarditis, 4; fractured bones, 30 (including 6 fractures of spine, 5 from toboggan accidents and 1 from an automobile accident); acute respiratory infections, including influenza, 318; mastoiditis with mastoidectomy, 1; otitis media, 14; pneumonia, 32; scarlet fever, 7; sinusitis, acute, 47; tonsillitis, acute, 42; tonsillectomy, 36; tuberculosis, 6. During the year there was one death of a student from a generalized septicemia of undetermined origin.

Dental service. During this period of financial stringency the dental department of the Health Service is able to render particularly valuable service to students, for its purpose is to provide high class dental service on a cost basis. This service was established some years ago because it was observed that many students, in spite of advice at the time of their physical examinations to have dental work done, were completely neglecting their teeth. The policy of the department has been to make dental service available for students who are not securing such service 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. Our very efficient dental staff, all of whom are on a part-time basis, has been continued and the financial returns from the department have been sufficient to cover all expenses.

Health service for faculty. During the fall quarter of 1930-31 the Board of Regents voted to make certain of the Health Service facilities available to members of the faculty who elected to pay the same annual health fee as is paid by students. This service includes a complete physical examination each year, medical examination and treatment at the Health Service dispensary, and auxiliary services such as drugs, X-rays, dentistry, etc., on the same cost basis as is paid by students. This service was made available to the faculty in January, 1931, and was taken advantage of by 94 members of the faculty in 1930-31 and by 119 in 1931-32. Many of the members of the faculty who have taken advantage of this service have spoken of its value to them and as it is utilized more extensively it should make a distinct contribution to the health and physical welfare of the group.

Summary. During the biennium just completed the Health Service has been called upon to provide for the students more medical and hospital service than ever before. In spite of this, however, a special effort has been made to extend preventive services, such as periodic health examinations, mental hygiene, tuberculosis control, etc., because the greatest service which can be rendered to individuals of any group during periods of unemployment and intense individual competition is to assist them to conserve and improve their health and physical resources. In addition to this the Health Service staff is carrying on various studies and experimenting with community health problems, most of which will have widespread interest and application.

Respectfully submitted,

H. S. DIEHL, Director

The Dean of Student Affairs

To the President of the University:

Sir: I herewith submit my report as dean of student affairs for the years 1930-31 and 1931-32.

During the past two years there has been a distinct improvement in the general morale of the student body, a willingness to think in terms of the general good and university service. This has been especially noticeable this year, in my judgment the best year since the war.

I cite as illustrating this statement the creation of the Students' Student Loan Fund by the students for needy and deserving students. The money for this fund has come from past classes, from individuals, and from student organizations on the campus. The fund at the present time amounts to about five thousand dollars. There has been a widespread pride and interest in this fund. The fund has been placed in the hands of the regents to be handled in the same way as are other trust funds.

There has been a growing interest in proper control and accounting for funds and in proper business relations between students and business men and firms. The All-University Student Council has been very helpful in tracing and helping to correct improper practice in connection with the above. There is today in your hands for presentation to the Board of Regents a set of recommendations from this office based on a definitely expressed opinion of many students and representative groups, looking to the setting up of better business methods, guidance, and supervision, and to the creation of definite educational values in activities.

During the past two years the most outstanding evidence of constructive thinking and planning on the part of students has been, in my judgment, the work of the student portion of the general Freshman Week Committee. This group conceived and worked out the idea of having speakers visit selected centers in the state, speaking to groups of prospective college students, fathers, mothers, and teachers. It developed that many alumni were interested and attended. The students outlined in a general way the talks, stressing the homely problems confronting the freshman student. The fact that the talks were as much for the student planning on colleges other than the University was also stressed. Dean Blitz and myself were asked to represent the students and the University on these tours.

The first tour was made in the fall of 1931, preceding Freshman Week. Twelve centers were visited. The tour for 1932 was made in the spring, meetings being scheduled at fourteen centers. This project has been a source of new goodwill, friendliness, and understanding on the part of young people, parents, teachers, and superintendents. Many favorable comments have been made by parents, alumni, superintendents, and members of the State Department of Education.

If it is deemed wise to continue this work, Dean Blitz and myself should help select the centers for next spring,

and should this fall contact parents and teachers groups and definitely arrange with them for the spring meetings. Where, this spring and last fall, meetings had been arranged in co-operation with these groups, the meetings were very successful—attendance running as high as 150, 200, and more, with one meeting passing 300.

Fraternities. The general situation has been good. Scholarship of the group has been reasonably satisfactory for the year just past, though I look for a falling off in their scholarship average, for the coming year. This will be due, in my judgment, to the difficulty the fraternities are experiencing in getting new members, enabling them to fill their houses. This has been due to the general depression and has resulted in the general group lowering its standards for rushing and initiation.

Student councils. There has been only one significant change in the functioning of councils this past year. The All-University Council has been functioning under a constitution nearly twenty years old, based on conditions of that time. This has led to interpretations of the meaning of the constitution—interpretation varying from year to year to fit special political needs. A new constitution has been planned for two or three years. It was thought best, this spring, to place the Council in abeyance until a new constitution was drawn up and put into effect. This will be this fall. The council during the year has done some fine and effective work.

Foreign students. For the year 1930-31 the work was carried on as in the past by Dr. Alfred E. Koenig. Dr. Koenig has been very successful in contacting this group of students and building up a helpful personal relation with them. This past fall a change was made in the manner of carrying on this work. A "Foreign Relations Project" was set up with Mr. Cyrus Barnum as director. Dr. Koenig kindly remained with us the first quarter to assist and help in establishing contacts. Mr. Barnum will, I presume, submit a report of his work directly to you. I wish at this time and in this formal way to express my appreciation to Dr. Koenig for his efficient, successful, and kindly helpfulness.

Student publications. The going publications at the present time are in a healthy condition and functioning successfully.

Report of Assistant Dean McCreery. I quote from his report:

I still engage in the practice of sending out a letter to every incoming first year man. This is an invitation to them to come in and discuss problems which arise during the year.

Personal interviews cover many subjects such as study problems, extra-curricular activities, and many others. When the problem is found to be of a specific kind and serious, the student is referred to some specialist in the problem. Students have been referred to Dr. deBerry, Mr. Williamson, Dr. Diehl, Mr. Bird, and Mr. Schmoker.

Hospital visitation. Hospital visitation, as carried on by Mr. Bostwick and Mr. Winans for the past two years, has become an important part of our personnel work. The Health Service sends us a daily report of men admitted. These men are visited the following morning. Every possible help is given them, and parents notified if need be.

Pioneer Hall. Quoting from Dean McCreery's report:

Pioneer Hall was built to offer a comfortable and attractive residence for out-of-town men in an atmosphere most conducive to success in the University. The hall has now been operating for one school year and, to my mind, the year has been a successful one. Many problems have arisen, quite naturally, but most of them have been settled satisfactorily.

During the first quarter there were a number of complaints about noise, but after certain students who were not interested in studying flunked out at the end of the first quarter such complaints abated somewhat. The social program for the hall has been carried on successfully and has been participated in by a majority of the students. It is not yet as extensive as it should be, but for the first year it has progressed satisfactorily. Next year a fee should be added to the room rental to finance this program.

Student finances. The work of guiding and advising in the matter of student activities finances is developing quite rapidly. Quoting from the report of Mr. Carroll Geddes, financial adviser for student organizations:

ORGANIZATION FUNDS UNDER THE CONTROL OF THE OFFICE OF THE
DEAN OF STUDENT AFFAIRS

	1931	1932
Bond investments	\$39,489.72	\$40,000.00
Savings accounts	5,183.43	11,146.21
Student activities checking accounts	99.95	112.45
	<hr/>	<hr/>
	\$41,773.10	\$51,258.66
Gain during 1931-32	\$6,485.56	

The above schedule shows the net gain the year 1931-32 of \$6,485.56 in the funds directly under the control and administration of this office. It is interesting to note that this is the best record of net worth of student organizations that exists under the present "set-up." There are, however, in addition to the \$51,258.66 held in the bond and savings accounts of these organizations, their very numerous checking accounts. I believe the average general balance in these accounts would approximate, at the present writing, \$2,000.

The reduction of price of social functions. Through a study of past financial records of the major social functions, it was found that almost \$2 of the sale price of a ticket went to support and carry the excessive complimentary lists. All previous methods of reducing this list had failed, but through the co-operation of the president of the

All-University Council, Mr. Weston Grimes, and interested members of the honorary groups, the All-University Council was persuaded to pass definite rulings governing these complimentary lists, cutting them from a total of 65-75 to 15-18. In this way the price of the major social functions has been reduced from \$9-\$10 to \$6-\$7.

Student organizations and business procedure. It has been the attempt of this office to establish and maintain a semblance of budgetary control procedure for student organizations. It is difficult, as we lack definite accounting control. Yet I believe almost all organizations have accepted and been attempting in some way, with the advice of this office, to budget expenses and income and to "pay as they go." It is worthy of note that to the knowledge of the writer there are no student organizations under the supervision of this office who have operating deficits for the year 1931-32. It is true that there are several who are carrying old deficits, but it is worth while to note that none of these deficits have been increased during the past year.

Relation of student organizations with the public. It has been the attempt of this office to gain the recognition of the public that in doing business with student organizations they are not risking their services and goods but are guaranteed their just payment in the same manner as would private business corporations. I believe that when this point has been satisfactorily shown private business enterprises, student organizations will receive a vast benefit in getting reduced prices for goods and services.

The bonds and securities mentioned in the report are placed in the comptroller's office for safekeeping. All investments are made through the comptroller's office, and with the advice and guidance of this office.

Students loan funds. During the year July 1, 1930 to July 1, 1931 loans of \$51,842.75 were made from the University Student Loan Fund, and \$6,267 from special student loan funds. In the second year of the biennium, July 1, 1931 to July 1, 1932, loans from the University Student Loan Fund were \$42,998.30, and from special student loan funds, \$9,870.50.

In addition to the above figures, there are a number of special funds in the hands of Dean Blitz for loans to women students. Following is a summary total of loans and repayments:

	TOTAL AMOUNT LOANED	TOTAL REPAYED
1930-31	\$3,849.00	\$3,607.04
1931-32	4,507.50	3,552.75

Respectfully submitted,

EDWARD E. NICHOLSON, *Dean*

The Interfraternity Council

To the President of the University:

Sir: I am hereby tendering a report of the Interfraternity Council for the years 1930-32. I have emphasized those points which are new in the fraternity program, merely touching on material which has been reported on before.

The Interfraternity Council has carried forward their policy, as in other years, of improving fraternity scholarship, training of pledges to aid in adjustment to college life, encouraging provisions for wiser choice of pledges, and continuance of the Co-operative Buying Association.

There is nothing particularly new to report concerning these phases of the council work. I can see a gradually increasing emphasis on scholarship in all fraternities, and although pressure was brought to bear on the council this year to lower scholarship requirements for initiation of members because of financial conditions, a majority of the council insisted on maintaining the present standards. Meetings were held for the new pledges during winter and spring quarters, at which time such subjects as: how to study, etiquette, extra-curricular activities, fraternity and university history, and health were discussed. These discussions were led by various faculty members and administrative officers.

The Co-operative Buying Association is increasing in size every year and fills a real need among fraternities.

There are several developments in the last two years, however, that have been somewhat unique. The alumni representatives of the various fraternities have joined themselves together to form an Alumni Interfraternity Council. This group was organized to discuss subjects of common interest such as food costs, group morale, taxation, building costs, and fraternity programs generally. This group insures stability of projects which carry on from one student generation to the next. This group has been able to see the value of many plans advanced by the university administration at times when the undergraduate council distrusted the plan. Mr. Stanley Harper, the president, has co-operated in the finest kind of way with the carrying out of such plans and has stood for the highest possible scholarship standards.

There has been a great revival of interest in the undergraduate council in the last two years. This has been

largely due, I believe, to the fact that at my suggestion a student chairman was elected to act as presiding officer, although I still remain council president. The council now feels that the plans are their own plans and not some superimposed upon them by the administration. My plans and ideas are now submitted to the student chairman, who places them before the council.

Last year the council voted to establish a \$2 pledge fee to be paid by every freshman who secured rushing bids and wished to go through rushing. This fee served to help pay for the expense of rushing season, and acted as a deterrent to those rushees who were not serious about pledging. I believe it also served the purpose of facing the prospective rushee with the practical fact of fraternity expense, which is so often lost sight of in the heat of rushing week.

The rushing period has also been shortened from eight to six days, thus causing less interruption of class work at the beginning of the quarter. Because pledge night will now fall on Saturday night due to the shortened period, it will be discontinued. Pledge night of last year was the most orderly ever held, but still it offered nothing constructive and serves no useful purpose.

The interfraternity banquet was started two years ago and was held again this spring. It serves to better interfraternity relations and tends to break down fraternity lines.

The greatest problem facing fraternities now is the financial distress occasioned by decreasing memberships. We are planning on a program of intensive study of fraternity costs and business costs so that every possible expense will be decreased to the minimum. Also, I think it behooves the fraternity to take stock of itself and determine whether it is really giving members value received for money expended. I can imagine a fraternity so much the center of undergraduate education and culture and inspiration that a person chosen to membership could not afford to remain outside.

Respectfully submitted,

O^TIS C. MCCREERY, *President*

The Dean of Women

To the President of the University:

Sir: The dean of women herewith submits the following report for the biennium 1931-32.

The biennium just passed with its crisis of unemployment, its bank failures, and its inability to absorb the young people just on the threshold of employment, has been a troubled time for university students, as well as

for the world at large, but the students of the University of Minnesota have maintained a fine morale during this time, and have gone forward with new projects to meet what they see as real needs of their generation. There are several indications of this clear-sightedness on the part of the women students of the University which I shall take pleasure in pointing out in the course of this report.

The past years have seen no greater co-operativeness, vision, and willingness to work hard than has the last biennium, and yet there has never been more eager craving for real direction and for advice based on full knowledge of the situation than our young women manifest now. Perhaps the most disconcerting part of the whole world situation, as they see it, is the knowledge that so small a proportion of our graduating seniors are finding placement in the fields for which they have prepared through four years or more. Women have been in the earning world so much shorter time than men that they are more readily affected than are men by changes in the possibility of employment. For many years, teaching was a sure market for their labor, but they are now confronted with the fact that even well-trained young women who have maintained a very high scholastic average during their course can find no vacancies in the teaching field. Universities and colleges have, for many years, emphasized the economic value of a college education. It is no wonder, therefore, that the university student expects that his collegiate training will be a real asset, both in the kind of employment which will be open to him at the conclusion of his college work, and in the earning power which he will have, not only at first, but increasingly as he goes on in his chosen field. To find that this assumption is a fallacy has been a real shock to the present generation of college students.

One need is most keenly felt, both by the present generation of college students, and by those immediately following—namely, definitive studies showing with reasonable accuracy the number of new people society can absorb in the major lines of employment, and the training requisite for such employment. So far as I know, no such body of definite information is at present available regarding the possible employment of women in fields for which college training is desirable or essential.

In the bewilderment caused by this changed picture of the economic world, and caused also by their introduction at first hand to unemployment as it affects their families, to bank failures, as they affect many times their own savings on which they had planned their college work, and to real want as they have seen it in their own neighborhood, if not in their own families, the courage with which the women students have carried on their work this year has been indeed commendable. It has seemed to many of us that they have appreciated the privilege of studying as they had not done before, and that they have made more use of the facilities offered them at the University than was their wont. They have curtailed the extravagance of their social life in many respects; they have provided simpler and less expensive amusement, not only for themselves, but for their group; and they have tried to plan more comprehensively for the social program of the whole University.

Housing

Sanford Hall. Sanford Hall has had a very happy two years. We are fortunate in having secured as its director Mrs. Leora Cassidy, one of our own graduates, who has taught in Minnesota and been dean of girls in the high

school at Warren for several years, who has taken her Master's degree in the training course for deans of women at Columbia University, and whose wisdom, sympathy, and effective administration has changed the whole atmosphere at Sanford Hall.

Co-operative cottages. At the end of the year 1930-31, we were told most unexpectedly that the co-operative cottages which we had had for several years, and which we had put into excellent condition at a heavy cost, were to be taken over for the temporary use of the nurses, and that our women students, if they wished co-operative cottages, would have to make use of the men's cottages which were being given up with the opening of Pioneer Hall. We took them, since this was no year in which to fail our women students who were counting on the co-operative houses to lessen their living expenses. We had forty students living in these four houses and eating in a common dining hall, a very excellent arrangement, and one which they very much enjoy. If we had twice or three times as many cottages, we could fill them all, for the constant call is for quarters where the girls may have pleasant and suitable living conditions at lowered expense. With the completion of the nurses' home, we anticipate a very different situation in the housing of our self-supporting students, and we are hoping that in this way the University may be of still greater service to its students who are getting their education by their own efforts. Because of the fact that they do part of the work themselves, and that they prorate all of their expenses on the basis of actual money paid out, it is possible for them to live very well at from \$15 to \$20 per month below the average of that of the other houses on the campus. The expense per capita in the co-operative cottages has not run over \$25 per month in the last two years. Miss Gina Wangness of the German Department has acted as head chaperon for several years, and has been most successful in this capacity.

Home Economics dormitory. We have continued to use the Home Economics dormitory on the Farm campus for university students taking work there. Miss Laura Matson is the chaperon. Because this dormitory serves no meals, and the girls must necessarily take their meals outside, the social life is far less complete and, therefore, less satisfactory than in the other university-owned houses.

Rooming houses. All houses where students live are inspected and graded according to desirability by the director of the Housing Bureau, Mrs. Catherine McBeath. We hold monthly meetings of our householders' organization, composed of the women in charge of the rooming and boarding houses, and these have been profitable both to the University and to the women in charge, because of the opportunity to talk out problems, and to maintain more uniform standards. An organization of householders for men has been operating for some three years, and its work is similar to that of the organization for women.

Sorority houses. The sorority houses are inspected as are all other women's rooming houses, and the sorority chaperons have a separate organization which meets monthly with the dean of women, the director of the Housing Bureau, and the social director of Sanford Hall. The situation in regard to sororities will be dealt with later in

the report, but it is fitting to say here that few of the sorority houses have been filled to capacity at any time in the last ten years, and there is serious question as to their real need on a campus where our students are so largely resident, in their own homes, and where the proportion of town girls among the sorority members is even greater than in the University at large.

Student Organizations

Women's Self-Government Association. The Women's Self-Government Association has had two very successful years, 1930-31 under the leadership of Miss Olive Walker, and 1931-32 under that of Miss Jane Affeld, both of whom proved themselves strong leaders with an able board co-operating with them. The work of the organization has followed all the lines indicated in the report of this office for 1928-30. There have been three significant additions. Because of the increasing number of women with advanced standing coming to Minnesota from other institutions, the work with entering students has been expanded to include the "Twin Sister" group; these upper-class women need almost as much help in adjusting themselves to a campus the size of Minnesota as do students entering college for the first time; yet, because they have been on another campus, they find it hard to group themselves with entering freshmen. By organizing them under specially selected upperclass women, their needs can be met, and their orientation can be accomplished more quickly and happily than if they were left to shift for themselves.

The vocational work of the W.S.G.A. is to be expanded for the coming year. By working more closely with the Y.W.C.A. and with Pan-Hellenic Council, they hope to increase the opportunities for vocational guidance for women students, since they feel that this is a very real need, and a service that they can well perform for the University.

Because so many women need financial help in order to stay in the University, W.S.G.A. is increasing the number of scholarships offered. Their scholarships are maintained through the money raised from the second-hand bookstore. In 1930-31, they gave eighteen scholarships of \$100 each, and in 1931-32 twenty scholarships of \$100 each to women students whose scholastic work was of outstanding caliber, and whose need of financial assistance was great.

The Young Women's Christian Association. The activities of the Young Women's Christian Association have followed along the same general lines as in previous years, though they have had to re-evaluate their work materially since their support from the Community Fund has been cut down. For the past two years, Miss Lois Wildy has continued as head secretary with Miss Altha Curtis as her assistant. For the coming year, we will have no assistant secretary, and her work will be distributed to volunteer student committees. The president of the Y.W.C.A. for the year 1930-31 was Miss Dorothy Bailey, and for 1931-32, Miss Mildred McWilliams. Both of these young women proved themselves admirable leaders.

The Young Women's Christian Association has a sepa-

rate organization on the Farm campus, under the direction of Miss Martha Collicot as secretary for the last two years.

In May of 1932, Minneapolis was hostess to the National Convention of Young Women's Christian Association members, and a special student division held its meetings on the campus. The planning for the entertainment for this large number of delegates was most ably handled by the young women of the association, under the guidance of Miss Lois Wildy and the Advisory Board.

Perhaps the most significant contribution of the Y.W.C.A. to the University this year has been the organization and working out of its personnel committee, a committee composed of students under the guidance of the secretaries and certain faculty advisers, which had for its object the meeting and helping of those women students who were having difficulties in adjustments. This help is accomplished, either by means of personal friendship offered, or by directing the student to the expert services which are available in the University, such as the Health Service, the Employment Bureau, the Psychiatric Service, and so on. The W.S.G.A. has co-operated with the Y.W.C.A. in making this personnel project a success, and it is a line of work which we expect to develop more fully for the coming year.

The two organizations have also co-operated on another very interesting project in conjunction with certain administrative officers and faculty officers. This is the Board of Social Planning, which is now in process of formation. Early in the year 1931-32, a group of students decided that in a university so large as Minnesota many opportunities for socialization were being lost. They, therefore, formed a voluntary committee, and with the aid of representatives from the office of the dean of student affairs, the dean of women, and the Y.W.C.A. and Y.M.C.A., they organized to study the problem, and to make a permanent organization which would be of service to the University in this respect. The committee has held semi-monthly meetings, has discussed such problems as social skills which could be developed in the University, and which are of use after the student leaves school; the social program as it is open to all students on the campus; the number of students participating in excessive social life; the number of students to whom no opportunity of a social life is offered, etc. It is hoped that through the office of the dean of student affairs and the office of the dean of women this co-operative committee of administration, faculty, and students can continue its work of studying and planning for a more comprehensive social life on the campus.

The Women's Athletic Association. The Women's Athletic Association has completed two successful years, the year 1930-31 under the leadership of Miss Karen Daniels, and that of 1931-32 under the leadership of Miss Dorothea Nylin. A further report on this organization is included under Dr. Norris' report on Physical Education for Women.

Mortar Board. Mortar Board is the senior honorary society for women and for a number of years, has sponsored a money-raising project, the proceeds of which have gone into a fund eventually to be used for furnishing the living

rooms of co-operative cottages, if and when the University builds such houses. In light of the great need among the students this year, Mortar Board placed in the hands of the dean of women the sum of \$350 from this fund to be used as a revolving loan fund, preferably for senior women, and to be recalled and devoted to its original purpose when houses shall be built for the self-supporting women students.

Sororities. The depression has affected the social life at the University perhaps more directly than any other phase of student affairs. For this reason the sororities have found themselves in a highly dangerous situation, since many girls whom they desire for membership cannot possibly afford to join, and since the "C" average ruling for rushing has prevented some of the girls, who were able to afford sororities, from pledging. We have had a year of fruitless discussion with little real consideration of the basic reasons underlying deferred rushing. Because of the fear in most of the sororities that their houses would not be filled, and that their membership ranks would be still further depleted if they continued with deferred rushing, they voted this spring to go back to their old system of fall quarter rushing. They have, however, put rushing during the first week of school, instead of during Freshman Week. It was impossible in any of the discussions, either with Panhellenic or with individual sororities, to make a majority of the members see the real injustice worked to the rejected girl. It was also impossible to make them see the injury in the long run to the sorority which takes unproved material. It looks as though the re-established form of fall rushing would probably continue for a considerable time, unless it proves so unsatisfactory that the university administration itself feels it necessary to take steps to change it. The large body of alumnae in the Twin Cities who are opposed to deferring rushing, the intense jealousy between groups, and the constant fear lest a rival group use underhand methods to get members, are as real factors in going back to the old system as is the fear of depleted membership. It has been impossible to evaluate the effects of deferred rushing, since it was complicated, at the time of its adoption, by the ruling that every girl must have a "C" average before she is allowed to pledge. How much of the direct improvement in the scholarship of the groups has been due to the "C" average ruling, and how much to the deferred pledging is impossible to analyze.

Aside from this backward step, Panhellenic is making every effort to work constructively with the University. It has made three distinct advances this year. It has, for the first time, admitted a Jewish sorority to its membership; it has established a loan fund for its own members, and it has asked for representation on the W.S.G.A. Board, so that it may co-operate more fully with the governing body of women students in working for the best interests of the University. All of these marks are hopeful in spite of its retrogression to fall rushing.

Shevlin Hall. Shevlin Hall is in constant use, especially by the various groups of organized women. Its space is entirely inadequate, even though it serves a very large need on the campus. Although this year is a poor time to make such a suggestion, still the fact faces us that

in comparison with some of our rival state universities such as Michigan, Wisconsin, and Iowa, Minnesota has notoriously poor social facilities. It has no fine recreational building for its students. While we are fortunate in having had Shevlin Hall for so many years before other universities recognized this need on their campuses, and while our Men's Union has served a real need, both buildings are now completely out-dated, and one of the projects for which our alumni should work most heartily is a new Union building with adequate facilities for the social and recreational activities of both men and women on the campus, instead of trying longer to maintain separate units, neither of which serves the need of its own group.

Financial aid. Statements covering loan funds and scholarships follow:

NAME OF FUND	LOAN FUNDS			
	1930-31 AMOUNT LOANED	1930-31 AMOUNT REPAID	1931-32 AMOUNT LOANED	1931-32 AMOUNT REPAID
Faculty Women's Club Loan Fund	\$2,131.00	\$2,253.00	\$2,001.00	\$1,929.59
Daughters of the American Revolution—Maria Sanford Chapter.....	675.00	100.00	250.00	279.44
Home Economics Association Loan Fund.....	100.00	.....	.....	40.00
Householders Loan Fund	43.00	33.00	63.00	40.00
Jessie S. Ladd Loan Fund	541.00	501.50	447.00	394.47
Minneapolis Alumnae Association Loan Fund..	250.00	100.00	45.00	298.23
Minneapolis College Club Loan Fund	25.00	17.00	101.00	99.75
Mortar Board Loan Fund	.....	.....	316.00	.....
Pathfinder Club Loan Fund	223.00	238.25	386.00	293.14
St. Paul Alumnae Loan Fund	519.50	310.00	140.00	232.42
Bertha Weiskopf Loan Fund .....	.....	.....	100.00	.....
Totals	\$4,507.50	\$3,552.75	\$3,849.00	\$3,607.04

NAME	SCHOLARSHIPS	
	AWARDS FOR 1930-31	AWARDS FOR 1931-32
Mrs. George C. Christian Scholarship.....	\$100.00	\$100.00
Mrs. George P. Douglas Scholarship.....	100.00	100.00
Faculty Women's Club, Student Section.....	150.00	150.00
P. E. O. Scholarship, Mrs. G. D. Estes....	100.00	.....
P. E. O. Scholarship, Mrs. D. B. Grebe....	.....	100.00
Nina Moraia Coben Scholarship, Mrs. H. Weiskopf	120.00	120.00
Mu Phi Epsilon.....	50.00	50.00
George H. Partridge Scholarships.....	100.00	.....
Women's Self-Governance Association Scholarships	1,850.00	2,100.00
St. Paul College Women's Club Scholarships	400.00	450.00
Sigma Theta Pi (Jewish).....	152.10	100.00
Coronto (Journalism)	50.00	.....

Chaperonage. The chaperonage of all campus parties is under the supervision of the dean of women. This work is being much better systematized; chaperones are required to report on each party, and these reports are checked. In this way, groups are held responsible for the conduct

at their parties, and much better co-operation is being secured. Two years ago the students requested a list of suitable and approved resorts be made up, where the spring house parties might be held. The dean of student affairs co-operated with the dean of women in making up such a list, and in visiting all the resorts personally, listing their facilities and prices, and explaining to their managers the University's wishes regarding conduct of house parties. As a consequence of these visits, it has been possible to accomplish two things—first to maintain a much closer check on these parties, which had caused much criticism in

the past, and second to secure much more cordial co-operation from the students because of our furnishing them with reliable information through our listings. The expense, time, and effort have been amply justified in the return made in good will, both of our students, and of the proprietors of the clubs, hotels, and resorts where the parties have been held. The students are showing real pride in having their parties rated high for conduct.

Respectfully submitted,

ANNE DUDLEY BLITZ, Dean

Vocational Counselor for Women

To the President of the University:

Sir: I herewith submit the following report for the biennium 1930-32.

Two years ago when a girl asked if the information given in a specific course would better fit her for the working world, the counselor knew that almost without exception this girl had actually held a position and was back in college to improve her ability to handle more congenial and profitable work either in her own profession or another. She was invariably of the group of advisees who had had in experience, to quote actual examples, nine years as a Western Union operator; five years as a teacher; three years as a secretary; two years as an interior decorator; one year as a real estate saleswoman; one year as a newspaper reporter. In other words, two years ago it was the student who had worked who was concerned about the future value of individual courses. In fact, among those who had not worked, there were many who did not consider even the matter of getting a position until after commencement.

Last year we remember as marked by the increased emphasis on the "stay in school" movement, and much effort was devoted to helping students who were partially self-supporting.

What is the counseling situation this June? It is not unusual to hear: "Will there never be a job for me? Shall I sit down, keep looking, work for an advanced degree, try dishonest means of support? Which?" The world of work as they find it today is naturally a great shock to many students. The surprise element can and must be eliminated in the transition from school life to community life today. We extolled in the past the ambition, enthusiasm, energy of youth—the greatest force in the world. It still is, but it is getting out of bounds because our young people are not informed as to community situations, and when they cannot do what they planned to do we must expect, with this tremendous driving power, that they are going to do something else. We cannot control them nor do we wish to, but we can give much needed direction to many. We can minimize the surprise element as regards their adjustment in the community by putting the best-known facts into their hands—first, as to their own ability; second, as to the value of individual

educational courses, as well as to the value of a college degree to themselves, to others; third, what the world has to offer them today—tomorrow. This is the task of the vocational counselor.

Unfortunately, business depression makes many think of a vocational counselor as "Chief of Discouragement," someone to be consulted when wishing to indulge in the joys of utter despair. We naturally, then, look for a slight falling off in the number coming to the counselor of their own volition, but connect the word "employment" with the counselor and immediately there is an influx of applicants as proved when a small notice in the *Minnesota Daily* associated the counselor with a city free placement bureau. In other words, students want to talk about work, jobs, hard cold facts. Some turn to employment to avoid boredom, some to repay loans or debts of honor as in the case of one girl who is being partly supported by an older sister and who now must assume a similar obligation for a younger sister.

But as never before we have those who are desperate for work. They may come from homes where someone, able-bodied, more pitiful than the sick, sits all day waiting for work, or perhaps they are entirely self-supporting and look fearfully into the future as their few savings dwindle. This group will, as last year, only in increasing numbers, continue contact with the counselor during the summer. The number of graduate students asking advice has made a marked increase this year.

Let us consider the most discouraging cases of other years, cases such as some of those sent by Dean Shumway, students who failed in college work—girls whose self-confidence and pride had to be restored so they no longer feared either the eyes of their friends or their own inward eye. Even taking the most pessimistic view possible, saying that many of our young people are meeting, or about to meet, utter failure in job finding, on the whole these young people are better off than the students who failed in college, because they have tasted success in their school work. They start away from college with faith in themselves. The most important work of the counselor is to see that this faith is kept alive.

But, in spite of the times, there are some who are not only finding work, but finding most congenial work. We are asked how, in this automobile age, those who are not placed are counseled. We all know the main highway of business and professions is too full of people, of auto drivers, but instead of waiting for ambulances to carry them off we can take this unusual opportunity of pointing out pleasant lanes; perhaps even take from bicycle riding the stigma of the out-of-date. Too often in former years the instructors have known from the freshman to the senior year that either because of mental, emotional, or physical inability, the student was doomed to failure in his chosen profession. This year we have a greater opportunity for presenting the facts. In fact, we dare not avoid the truth! How much better to save these young people from absolute failure or defeat, by showing them that there can be satisfaction in mediocrity. The object beyond our reach so often becomes the most desired. Those of us who believe

in the value of work as a source of true enjoyment, rejoice that the present conditions are making work, just because of its scarcity, most desired and fashionable. In other words, luxuries and work are put in their proper perspective. We can hope to see contentment and pleasure coming from the seemingly smaller, but more fundamental things of life.

At the same time, the counselor must not pass lightly over unusual talent because while some return to bicycle locomotion, we are only at the beginning of the flying age. There are those who must carry double loads of work because of their creative and organization ability. It is even more important that our flyers should not be held to earth by general discouraging statements of hard times and depression.

Respectfully submitted,
KATHERINE WOODRUFF,
Vocational Counselor for Women

Co-ordination of Faculty-Student Counseling

To the President of the University:

Dear Sir: I herewith submit the report of the Co-ordination of Faculty-Student Counseling for the biennium 1930-32.

One of the perennial problems confronting college administrators is the relationship between faculty and student. The University recognizes the importance of these faculty-student contacts and seeks to improve their effectiveness by the development of specialized advisers for different types of student problems. Certain members of the faculty are designated as advisers for problems of speech disorders, mental hygiene, social relationships, finance, and employment. These counselors serve the entire student body regardless of the college or office in which they hold appointments.

The appointment of these special advisers is predicated upon the principle that, although every member of the faculty is a personnel worker, yet general counseling needs supplementation by specialized workers. The personnel organization at Minnesota, therefore, is a decentralized one as opposed to centralized control.

In order to conserve the advantages of both systems a co-ordinating agency was developed in 1929 as a part of Minnesota's decentralized system. Professor Paterson's subcommittee on student personnel of the Senate Committee on Education proposed in 1927 an all-university committee on the co-ordination of student personnel activities for the integration of college personnel policies and practices; and secondly, the co-ordination of counseling through a faculty-student contact desk. Dean J. C. Lawrence, chairman of this committee, named as a subcommittee to establish the contact desk, Professor Anne Fenlonson, Dr. E. M. deBerry, and Professor D. G. Paterson. The writer was associated with this project as supervisor in 1931-32.

The procedure of the contact desk is simple. Each

faculty member who gives "out-of-routine" advice to students regarding vocational, social, financial, scholastic, or personal problems reports to the desk the student's name, the date of the first interview, who referred the student for advice, and the type of problem discussed. Thereafter, each additional adviser who sees the same student is notified only that another adviser has interviewed the student and that helpful information may be had by calling directly upon previous advisers. This process of "identifying" students helps to prevent needless duplication and conflicting advice as well as to identify those students who go from one adviser to another heeding the advice of none.

During the past year additional services were provided through the contact desk in the form of indispensable data regarding scholastic grades, health status, and psychological and vocational test analyses. This latter testing service has proved so valuable in regard to vocational orientation that the Board of Admission asked for its expansion so that new students and others who need help may find it available.

SUMMARY OF ACTIVITIES OF THE CONTACT DESK			
	1929-30	1930-31	1931-32
Registration of counseling cases.....	2,102	845	1,896
Identifications	653	179	336
Number of persons using services.....	44	35	57
Registrations by telephone.....	....	....	836
Requests for:			
Test ratings .....	....	....	968
College grades .....	....	....	175
Health reports .....	....	....	138
Application for admission data....	....	....	188
Special tests .....	....	....	663

Note.—This table reports the number of students advised regarding problems of vocational choice, studies, personality conflicts, etc. It does not agree with the table reporting contacts for the week of April 21, 1930, because of the inclusion in this latter table of other types of contacts.

This effort to co-ordinate student counseling is based upon the assumption that effective advising can be done only when all the important data regarding a student's health, grades, vocational aptitudes and personality traits are used by the counselors; hence, the contact desk collects these data for the counselors.

The services of the contact desk were used in 1931-32 by counselors in the Colleges of Science, Literature, and the Arts and Education, the School of Chemistry, University College, Junior College, School of Nursing, Division of Home Economics, and the Department of Physical Education, members of the Committee on Vocational Guidance for Freshman Week, Health Service, and administrative officers.

If the number of students reported to the contact desk seems small in view of the total enrolment of the University, the reader's consideration is directed to these facts: (1) that personnel work in colleges is in its infancy and that this report shows progress during this early period; (2) that it is doubtful whether other institutions would report a greater number of contacts; (3) that not every student needs this type of advising; and (4) that facilities are limited, both with regard to finances and faculty members qualified to do this type of work.

Of the 1,896 counseling cases reported during the present academic year, 336 were interviewed by two or more counselors. A questionnaire study was made of these identified registrations to determine how many cases had been referred from one adviser to another as distinguished from those who voluntarily sought advice on the same problem from several counselors. Reports were made for 136 of the 336 cases; these reports showed that 105 were duplicate registrations because of referrals and 31 students voluntarily had seen two or more advisers.

In addition to detecting duplicate cases of counseling, arrangements were made during the present year to secure college grades, Health Service reports, special aptitude testing, and data from student's application for entrance to the University. Requests numbering 968 were made for college aptitude ratings, 175 for college grades, 138 for Health Service reports, and 188 requests for a transcript of information from application blanks; in addition, 663 special aptitude tests were given on the recommendation of counselors. The number of these requests indicates that faculty advisers consider these data necessary for the counseling of students; in fact, many counselors say that they are unable to give adequate advice unless they have these supporting data for the analysis of the student's problems.

Judgments regarding the usefulness of the contact desk may be classified as follows:

A. Identification of duplicate counseling cases.

1. Judging from identification reports whether a student's problems are being handled, e.g., one counselor comments that if she receives a report that Dr. deBerry has contacted one of her cases, she need give little thought to the possible emotional problems of that student.

2. Identification reports make possible a concerted and consistent program of counseling by all faculty handling a case.

3. By use of identification reports it is possible to check certain irregularities of a student's "memory for details," particularly, the advice and information said to be given by other counselors.

B. Use of the contact desk as a central service for getting necessary data from other personnel agencies such as:

1. Health Service for physical defects and status which should be considered for vocational choice, outside work, and number of courses.

2. Registrar's office for grades.

3. Deans' offices for data from the student's application for enrolment, particularly the comments of high school teachers, regarding outstanding achievements and home conditions.

C. Special testing services for vocational interest and aptitude, retest on the college aptitude test, clerical aptitude test, and mechanical aptitude tests. This testing was included temporarily as part of the contact desk services in 1931-32 because of inadequate staff facilities in other personnel agencies.

This report of the contact desk as a co-ordinator of personnel work should include a summary of evidence bearing upon the criticism that the very size and enrolment of a state university precludes personal friendly contacts among faculty and students. Such a criticism is implied in the belief of parents that their son or daughter is "lost in the crowd" at the University. University administrators not only have held a contrary opinion but have actively fostered these relationships. Until now little factual material was available to refute the opinion that the "University is a cold, impersonal machine."

For one week beginning April 21, 1930, the contact desk secured the co-operation of 278 faculty members in a census of out-of-the-routine personal contact with students. During this one week there were 3,588 such contacts; only 1,028 students were interviewed by two or more faculty members. The following list gives the type of student problems together with the number of contacts for each type:

Academic and scholastic problems	1,696
Emotional problems	64
Employment	256
Financial and student scholarships	87
Grades only	165
Health	44
Relationships in the home	19
Orientation to university life	35
Social relationships	220
Vocational	334
Study problems not related to the interviewer's courses	82
Extra-curricular activities	354
Relations with faculty members	9
Discipline	6
Speech	19
Petitions (class registration, etc.)	98
Program advising and registration	171
Graduate work	231
Personal	80

A total of 3,970 problems was discovered, discussed, and partially or wholly solved by these 278 faculty mem-

bers. Since there is no reason to believe that the week of April 21 was atypical, it is evident that at the University of Minnesota students are given an amazing amount of attention and aid regarding their personal and scholastic problems. It is significant, moreover, that such a large number of faculty members devote so much time to counseling individual students. When one considers the certainty that other faculty members interviewed other students during the remaining weeks of the academic year,

then one may conclude that a very large percentage of Minnesota students receive the best available advice regarding their personal problems. The University earnestly seeks to discharge its obligation to parents and students regarding adjustment to the problems of college and professional life.

Respectfully submitted,

EDMUND J. WILLIAMSON, Chairman

The Department of Physical Education and Athletics

To the President of the University:

Sir: I submit, herewith, a report for the Department of Physical Education and Athletics for the academic years 1930-31 and 1931-32. The two-year period ending June 30, 1932, coincides exactly with the term of Mr. H. O. Crisler as director of athletics who was succeeded by Mr. Frank McCormick on July 1, 1932.

Prior to 1930, the Department of Physical Education and Athletics experienced a rapid expansion in physical plant and program. In order to establish in its broadest scope the trends and tendencies of intercollegiate competition in its relationship to the university program, a special committee of nationally prominent educators and sports authorities was appointed by the president to make a survey of the program and the administrative set-up of the Department of Physical Education and Athletics. The final report of this committee has not been received. However, some administrative changes have been made by the University Senate and the Board of Regents. These changes may be listed as follows:

1. A limitation of the duties of the Senate sub-committee on tickets, specifically to the fixing of ticket prices for Intercollegiate contests, the preparation of complimentary lists and the supervision of seating arrangements.
2. The transfer of the control and supervision of the sale of tickets, the depositing of funds, the care of funds, the financial reporting of games and the accounting for all athletic funds to the Comptroller's Office. These funds are now deposited with the State Treasurer with all other service department funds.
3. The transfer of the responsibility for the physical care of Northrop Field, the Memorial Stadium, Field House and of all other campus space devoted to athletics to the Department of Buildings and Grounds.
4. The transfer of the responsibility for the management of the University Recreation Field to the Service Department.
5. With the exception of the items listed herein, above, complete responsibility for the detailed administration of Intercollegiate Athletics, the appointment of all coaches, managers, and assistant managers is vested in the Director of Physical Education and Athletics subject to the supervision and the approval of the Committee on Intercollegiate Athletics and subject further to the constant revision and ratification of the University Senate.

In addition to these changes in administration set-up, the two-year period is marked by a number of items of

special interest deserving of special mention. They are listed herewith:

1. The resolution of the Senate Committee making available \$20,000 of athletic reserve funds for student loan purposes.
2. The authorization of a loan of approximately \$20,000 from athletic reserve to the Service Department to aid in completing and furnishing the Club House at the University Recreation Field.
3. The playing of the Ohio State-Minnesota Charity Football Game in 1931 from which a net profit of \$38,930.41 was realized and of which amount \$11,618.60 reverted to the State of Minnesota and was duly paid to the Governor of the State to be administered by him for charitable purposes.
4. The marked improvement in the caliber and morale of athletic teams competing in all branches of Intercollegiate competition.
5. A marked increase in attendance of basketball games at the University Field House and the installation of specially constructed grand-stand bleachers to accommodate the attendance.
6. A marked decrease in the net football receipts attributed to the nation-wide economic distress.
7. The appointment of Mr. Bernard Bierman as head football coach, formerly head coach at Tulane University.
8. The installation of refectories in the Stadium at a cost of approximately \$2,400.00 which was paid from athletic reserve. The refectories are operated by the Service Department and the profit reverts to the Service Department.
9. An improved relationship between the University of Minnesota and other Big Ten Schools as well as non-conference schools reflected in part by stronger home game schedules in football and other sports.
10. The appointment of a sub-committee for the Senate Committee on Intercollegiate Athletics to report on plans for future expansion, which report will be withheld until the survey of the President's Committee has been received.
11. The participation in the Olympic Games trials by the University hockey team, and members of the track, swimming and gymnastic teams.
12. The provision of \$4,000 in the year 1930-31, from athletic reserve, to assist the Committee on Educational Research in its research in physical education activities.

The intercollegiate sports program at Minnesota at present includes competition in baseball, basket-ball, cross

STATISTICAL TABLE ON INTERCOLLEGIATE ATHLETICS FOR 1930-31 AND 1931-32

	Total No. Games	No. Conference Games	No. Non-Conference Games	Total No. Receiv. Ath. Instruction Including Freshmen	No. Varsity Candidates	No. Varsity Cand. Elig. for Intercol. Competition	No. Having Intercol. Competition	No. "M's" Awarded	No. Old Engl. "M's" Awarded	Varsity Plain Gar- ment Award	No. Fresh. Candidates	No. Numerals Awarded	No. Games Won	No. Games Lost	No. Games Tied																											
	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32	30- 31- 31 32																												
Baseball	18	16	9	10	9	6	96	165	46	90	27	26	19	17	10	11	5	4	5	4	50	75	16	13	7	8	11	8	0	0												
Frank McCormick																																										
Basket-ball	17	18	12	12	5	6	53	110	43	50	14	15	11	12	10	10	2	1	3	4	89	60	18	15	13	15	4	3	0	0	0											
David MacMillan																																										
Cross country	4	4	3	3	1	1	55	65	30	35	15	17	13	16	4	9	2	0	0	0	25	30	8	5	3	3	1	1	0	0	0	0										
S. W. Finger																																										
Football	8	10	4	5	4	5	266	169	95	82	71	50	42	39	25	26	10	10	13	12	171	87	20†	17†	3	7	4	3	1	0	0	0	0									
H. O. Crisler																																										
Gymnastics	5	3	4	3	1	0	50	45	18	30	9	8	9	7	6	7	3	0	0	0	32	15	14	3	2	3	3	0	0	0	0	0	0									
R. A. Piper																																										
Golf	4	3	2	1	2	2	27	34	22	24	12	8	7	5	4	3	1	1	0	0	5	10	3	4	3	3	0	0	1	0	0	0	0									
W. R. Smith																																										
Hockey	19	15	7	5	12	10	104	100	42	45	17	15	13	13	13	13	1	1	0	0	62	55	12	13	7	11	11	3	1	1	0	0	0									
Frank Pond																																										
Swimming	7	6	6	3	1	3	47	54	17	25	13	20	12	13	10	8	0	2	0	3	30	29	17	16	5	4	2	2	0	0	0	0	0	0								
Niels Thorpe																																										
Tennis	6	5	5	3	1	2	45	98	22	48	13	8	7	5	5	4	0	0	0	0	23	50	7	7	3	5	3	0	0	0	0	0	0									
Phil Brain																																										
Track	7	5	6	5	1	0	151	173	64	75	25	31	27	21	12	18	3	4	0	0	87	98	7†	6†	2	3§	5	1	0	0	0	0	0									
S. W. Finger																																										
Wrestling	5	5	4	4	1	1	93	85	58	44	21	25	12	11	5	5	1	1	0	0	35	41	12	11	1	1	4	4	0	0	0	0	0	0								
Blaine McKusick																																										
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—						
Totals	100	90	62	54	38	38	987	1098	457	548	237	223	172	159	104	114	28	24	21	23	609	550	155	134*	49	63	48	25	—	—	3	1	—	—	—	—	—	—	—	—	—	—

* Freshman varsity numerals.

† Freshman reserve numerals.

§ Second place in quintuple meet.

country, tennis, track, football, gymnastics, golf, hockey, swimming, and wrestling. This program is believed to be in a healthy condition and to offer its fair proportionate share to the broad educational program of the University.

INTRAMURAL PARTICIPATION

	NO. ON TEAM	1930-31	1931-32
Baseball	12	228	180
Basket-ball	8	1,008	1,016
Bowling	6	180	120
Boxing .....	..	175	200
Diamond ball	12	948	1,014
Fencing .....	..	25	45
Golf .....	..	4,247	3,492
Handball .....	..	325	316
Hockey	8	280	192
Horseshoes .....	..	166	156
Indoor relays .....	..	48	47
Sigma Delta Psi .....	..	30	35
Skating .....	..	100	56
Skiing .....	..	150	22
Squash .....	..	90	132
Swimming .....	..	135	102
Tennis .....	..	1,081	1,008
Tobogganing .....	..	100	150
Touchball	12	624	744
Track .....	..	275	291
Volley ball	8	214	114
Rifle shooting .....	..	1,425	1,386
Total .....	..	11,854	10,818

A complete schedule of athletic receipts and other statistical data will be found in the *Comptroller's Report*.

The required physical education course for men is for the fulfillment of the aims of general education as well as for rounding the students' development on the physical side. More specifically the physical education course aims to provide activities in wholesome situations which furnish: (1) A knowledge of recreational skill in games that may be used in later years in the University and also after graduation; (2) better organic development; (3) a knowledge of proper health habits; (4) the ability to swim at least 40 yards as a safety measure; (5) the correction of physical defects where possible and the instruction of the physically handicapped in the knowledge of recreational activities in which they may participate; (6) the establishment of desirable social characteristics.

All men are examined upon entrance to the University and those who need special exercise are assigned to orthopedic classes. All others are allowed a wholly elective program with the following limitations: (1) Those who cannot swim 40 yards must elect beginning swimming; (2) men may take the same activity for not more than two quarters; (3) men may substitute athletic team participation for two quarters only.

Elective activities are wholly of a recreational character except for orthopedic class work and one elective

course in gymnastics which is offered for those who wish developmental exercise.

An attempt was made during the winter of 1930 to determine students' opinion of physical education required work and to learn so far as possible what outside use students were making of activities learned or participated in during class time. For this purpose a questionnaire was given to approximately 650 men who were registered for the most part in the winter quarter sections participating in basket-ball, volley ball, squash racquets, and handball. Men were asked to return these questionnaires unsigned. The following interesting results were obtained.

Summary of Questionnaire Survey

NEW ACTIVITIES LEARNED	OUTSIDE USE MADE OF ACTIVITIES
266 learned squash racquets	1. Recreational activity in spare time 414
236 learned handball	2. Use in teaching others 126
124 learned volley ball	3. Use in intramural participation 116
96 learned touchball	4. Use in clubs, church society, Y.M.C.A., etc. 112
60 learned swimming	5. Use in officiating games 84
20 learned basket-ball	6. Use in camp 60
16 learned boxing	7. For exercise, keeping in condition 25
SUGGESTIONS RECEIVED FROM STUDENTS	MOST POPULAR SPORTS
1. Have longer periods	1. Basket-ball 226
2. Offer tennis and golf	2. Touchball 214
3. Have two, three, or four years, instead of one year	3. Handball 86
4. More opportunity to elect activities	4. Squash 68
5. Allow men to elect either physical education or military drill	5. Volley ball 66
NUMBER WHO FAVOR OFFERING PHYSICAL EDUCATION AS AN ELECTIVE RATHER THAN A REQUIRED COURSE	NUMBER ENJOYING THE COURSE
Yes—238	Yes—615
No—440	No—34

With this information as a guide several changes were made in the administration and content of the course. Most important among these were the inclusion of instruction courses in golf and tennis under competent teachers. The following table indicates the activities and the enrolment in each during fall, winter, and spring quarters of the past two years:

	FALL	1930-31	1931-32
1. Touchball and volley ball		515	444
2. Swimming (a) Beginning		156	90
(b) Advanced		67	65
3. Basket-ball		44	.....
4. Handball and squash racquets		38	.....
5. Boxing		60	80
6. Orthopedic		67	46
7. Team substitution		103	134
8. Tennis	252
9. Gymnastics	13
10. Physical efficiency tests	40
Total		1,050	1,164

WINTER		
1. Basket-ball, volley ball, handball and squash racquets	595	537
2. Boxing	53	73
3. Swimming (a) Beginning	93	52
(b) Advanced	62	84
4. Orthopedic	42	42
5. Team substitution	134	174
6. Gymnastics .....	.....	10
7. Physical efficiency tests .....	.....	30
Total	979	1,002
SPRING		
1. Diamond ball and track	428	261
2. Tennis	60	146
3. Golf	56	83
4. Swimming (a) Beginning	94	20
(b) Advanced	35	86
(c) Diving	23	25
(d) Life saving	40	53
(e) Intermediate .....	.....	44
5. Orthopedic	40	45
6. Team substitution	125	122
7. Physical efficiency tests .....	.....	20
Total	882	905

This makes the totals for the years, 2,911 and 3,071, respectively.

Preliminary work was done during 1931 to 1932 with a small group in the use of tests to determine the effect of exercise on physiological functions. This work is to be extended during 1932-33 as an experiment, using as subjects all students registered in physical education required work. One half of these students will comprise a control group.

The teacher training course has continued to grow in numbers during the past two years. The total enrolment in 1929-30 was 91. In 1930-31, the total was 145 and in 1931-32, the total was 142. These totals were distributed as follows:

FRESHMEN	SOPHOMORES	JUNIORS	SENIORS	TOTAL
1930-31	53	36	35	21
1931-32	39	42	37	24

Several changes have been made in the teacher training curriculum. All of them tended to make the requirements for the course somewhat more stringent and to give the men a more technical training. A closer relationship was established with the University High School.

Consideration is being given to other changes in curriculum and administration with regard, (1) to the establishing of entrance requirements of a physical and mental

nature; (2) to the offering of additional courses in physical recreation and related activities; and (3) to the establishing of some graduate courses.

Intramural athletics during the past biennium have provided a wide program of games and recreational activities for students and faculty men during all seasons. The program offers supervised recreation for students who are not able to compete on varsity teams in the intercollegiate sports program. Students are taught to participate in those sports best suited to fit the recreational needs of later life. The facilities available include 40 tennis courts, 2 touchball fields, 7 playground ball diamonds, 4 horseshoe courts, 6 basket-ball courts, 8 squash racquet courts, 10 handball courts, swimming pool, and indoor and outdoor tracks. In addition, there is the clubhouse at the Recreation Field where 14,419 rounds of golf were played by students and faculty in 1931, 12,709 by alumni, and 7,193 rounds by the guests of these two groups.

In a petition addressed to the Board of Regents and to the Department of Athletics, the student body requested the construction of buildings to accommodate additional swimming pools and an indoor ice arena. The need for this requested expansion of physical plant is being considered by the Senate Committee on Intercollegiate Athletics.

The statistical table given on page 203 summarizes intramural activities for the past two years.

Annually during the past two years, the department has conducted the following tournaments acting as agents for the Minnesota State High School League:

1. State High School Track Meet
2. State High School Golf Tournament
3. State High School Tennis Tournament
4. State High School Swimming Meet

The department has also assisted in conducting the State High School Basket-ball Tournament which was held in the Field House the past two years.

On invitation, staff members have given a large number of talks on topics related to physical education and athletics before service clubs, churches, high schools, and civic groups. Requests for speakers come not only from the Twin Cities, but from throughout the state, and wherever possible some member of the staff is assigned to cover the request. It is estimated that from 300 to 400 such engagements are handled each year.

Detailed reports including statistical data covering the activities of the department and prepared by the staff members in charge of these activities are on file in this office for more detailed information.

Respectfully submitted,

FRANK McCORMICK, Director

Physical Education for Women

To the President of the University:

Sir: I submit herewith the report of the Department of Physical Education for Women for the biennium 1930-32.

Studies. A. By way of self-examination and to provide data for use in further studies, a series of tests aimed to tell us more about our students has been conducted during the biennium. These have been (1) a questionnaire on student opinion regarding the program of the department; (2) a study of girls' preferences in physical education activities (carried out by Miss Barbara Marx in the Institute of Child Welfare, working under a committee); (3) motor ability tests for entering freshman (conducted by Miss Elizabeth Graybeal, a research fellow), and knowledge tests for entering freshmen, intended to reveal knowledge in the field of physical education.

On the basis of facts revealed by these tests, the subcommittee on physical education studies of the Committee on Educational Research plans to begin in the fall of 1932 a comparative study of groups who take the regular program in physical education for women and groups who do not. From this comparison the department hopes to obtain a better basis for future action regarding the requirements and the program in physical education.

B. To meet a newly adopted requirement of the College of Education, this department last year prepared a set of comprehensive qualifying examinations covering the field of physical education and its background. This will be required of prospective practice teachers in the College of Education.

C. Several studies for the advancement of its work have been conducted by this department.

1. The professional curriculum for students majoring in physical education has been altered and improved, following investigations by our staff. In addition to certain reductions and increases in the weight granted various courses in the program, sequences have been rearranged to bring skills courses in the first two years, technique courses in the third year, and philosophical courses and practice teaching in the fourth year. The course is still so largely prescribed that there is too little room for a desirable number of electives or for certain desirable minors. Whether a fifth year should be added to the curriculum will next be considered.

2. A comparative study of the technical and the integrated methods of teaching dancing has been made by Miss Gertrude Baker for the National Dance Committee. It was described to the American Physical Education Association at its Philadelphia meeting in April, 1932.

3. A comparative study of first, second, and third posture grades of 376 sophomores, based on photographs judged by experts, has been carried on by Miss Starr. It showed definite improvement in posture over two years.

4. With the help of students, an experiment in teaching old infantile paralysis cases to swim, to assist in the recovery of muscular development, has been begun.

5. With the co-operation of the State Department of Education, a study of basket-ball for girls, as it is con-

ducted in Minnesota high schools, was made by three students.

The staff has shown splendid spirit and perseverance in making the studies and reports mentioned. Since it was not possible to lighten the teaching load to provide time for research, the year 1931-32 has been a heavy one. Copies of all of these studies are on file in the Women's Gymnasium.

Staff. During 1930-31 Miss Florence M. Warnock was on leave of absence, studying, and in 1931-32 Dr. Alice H. Tolg has been on sabbatical furlough and Miss May S. Kissock on leave of absence to travel and study.

The staff has been represented on national committees through Miss Baker's work for the National Dance Committee, by Miss Warnock on the National Basketball Committee, and by Miss Dickson as state basket-ball chairman, both for the American Physical Education Association.

Personnel work with professional students. To develop the personality of professional students and also to reveal which students are probably unfitted for teaching physical education, so that they may change to other courses before it is too late, are problems that now receive careful attention. The department has an adviser for each of the four classes and one for transfer students. Advisers take pains to know the students and help them with their problems, either advising them directly or helping them make a contact with some other campus agency. Students are rated each spring and are given a chance to discuss their ratings with their advisers.

Practice teaching. Agreements with three Minneapolis parochial schools have made it possible to increase the number of opportunities for practice teaching. This has been a real advantage, as too few students had been able to find practice teaching opportunities. University High School, and South and Marshall high schools, will continue to furnish contacts of this type.

Integration of two courses. Beginning with 1930-31 the course in anatomy for professional students, heretofore taught in the Medical School, has been taught by a member of our own staff who is equipped to offer it. She then has taught kinesiology to the same group the following quarter. The latter course is intimately dependent on the former, and this arrangement has permitted valuable integration of the two. Kinesiological applications of the facts of anatomy have accompanied that course and a time-consuming period of anatomical review has been eliminated.

Recreational activities. As usual the Women's Athletic Association has led in organizing and conducting the program in recreational activities. A board of twenty students and two faculty members plans all policies, programs, finances, and social activities. Faculty members coach certain seasonal sports at 4:30 each afternoon. Three faculty members contribute time as advisers and assist in administration. Three activities have been added during the past year, rifle marksmanship, fencing, and tap danc-

ing. Also the "point" system has been discarded for the "participation" system. In the latter system a girl receives credit for the quarter in a given sport if she takes part in it a stated minimum of times, which is on the average, six. Of the 939 girls reported as participating, 338 have received participation credit.

Exemptions of transfer students. Beginning in the fall of 1931, students who enter the University with 45 credits of advanced standing are excused from the freshman requirement in this department and students who enter with 90 credits are excused from the entire requirement.

Summer Session changes. For several years the enrolment in the second term in summer has not been satisfactory. In 1931 no courses in physical education were offered in the second term, although the swimming pool was kept open at certain hours. The funds thus released went to the establishment of a problems course in the first summer term.

Co-operation with junior colleges. Junior colleges in Hibbing, Virginia, and Duluth have been helped in arranging

ing their curricula in such a way that students who may transfer from them to the University will suffer a minimum of lost time.

Gymnasium costumes. Because of difficulties in trying on, in finding a sales outlet for discarded styles, and in other respects, it was decided in 1930-31 to discontinue the practice of having costumes carried by the university storehouse. Under the new policy middies and swimming suits are furnished to the students and the laundering, done by the university laundry, is charged against their physical education fee. Swimming suits are laundered after each use and the middies approximately once a week. After a careful canvass of the quality, variety, and service available at several stores, one was selected at which the students should purchase their knickers. The new policy has been in effect for two years and has been eminently satisfactory.

Respectfully submitted,

J. ANNA NORRIS, Director

The Employment Bureau

To the President of the University:

Sir: I herewith submit the report of the activities of the Employment Bureau for the years 1930-31 and 1931-32.

TABLE I. UNIVERSITY EMPLOYMENT BUREAU

TYPE OF EMPLOYMENT	APPLICANTS REQUESTED				AMOUNT EARNED	APPLICANTS ACCEPTED		APPLICANTS ACCEPTED		AMOUNT EARNED				
	Men	Women	'30-'31	'30-'31		'30-'31	'31-'32	'30-'31	'31-'32					
	'30-'31	'31-'32	'30-'31	'31-'32		'31-'32	'30-'31	'30-'31	'31-'32					
Athletic events	583	641	... ...	... ...	\$ 3,306.40	2	...	2	8	2	...	1	7	\$ 1,875.00
Carpenter	...	4	...	...		2	4	4	4	2	4	3	4	3,977.00
Chauffeur	.7	16	...	...		7	15	...	...	23	52	12	20	974.35
Clerk, store	20	20	2	7		17	20	2	7	255	251	36	72	62,748.20
Collector	2	1	...	...		2	0	...	...	19	6	3	..	1,275.75
Cook	...	...	1	4		...	1	4		41	66	4	4	6,219.10
Draftsman	14	23	1	...		14	23	1	...	1,410.50				
Electrician	3	5	...	...		3	4	...	...	262.30				
Translation and interpretation	10	3	3	11		9	3	3	11	139.90				
Housework	8	...	251	211		6	...	94	131	42,543.65				
Janitor	16	34	1	...		13	34	1	...	2,721.35				
Laboratory helper	8	...	2	...		7	...	2	...	1,109.80				
Library work	1	1	...	2		1	1	...	2	567.00				
Manual labor	4	...	19	...		4	...	18	...	471.38				
Musicians and entertainers	24	36	3	4		21	...	1	...	2,369.00				
Nurse maid	1	...	16	23		1	...	13	21	325.10				
Odd jobs	377	216	18	...		374	216	18	...	1,808.25				
Office work	35	163	323	706		35	160	317	703	26,238.07				
Oil station	3	2	...	...		3	2	...	...	485.00				
Printer	...	1	...	...		...	1	...	...	8.00				
Service jobs	101	51	2	20		95	43	2	18	8,707.85				
Settlement house	8	7	4	2		6	3	4	0	3,085.00				
Grand totals (Students and non-students)	1656	1663	874	1255		1591	1557	551	1020	\$261,690.03				

These have doubtless been the most difficult years in the history of the bureau. With conditions as they were it does not seem necessary to offer explanations of the decrease in student earnings. Jobs were mostly of short duration; of the modicum that promised to be permanent, many terminated after a brief time.

The actual duties of the Employment Bureau staff were multiplied by the hundreds of applications—we have had to deal with a great many discouraged and disgruntled people—and by the new Stenographic Bureau.

The Stenographic Bureau, a service enterprise, the purpose of which was to give typing and stenographic service to students and faculty, began operations October 15, 1931. The service apparently fills a definite need. The hope has been that the bureau would absorb any excess of work in university offices and prove itself an economy measure. We feel that this is being accomplished indirectly by the in-

creasing number of calls from faculty members for personal work.

The Stenographic Bureau used student help whenever possible and enabled students to earn over \$700.

TABLE II. STENOGRAPHIC BUREAU

Income	\$915.02
Accounts receivable (theses in process of typing, July 1) ..	53.60
	\$968.62

Changes in the university clerical staff have been few. Only eighteen positions in the classified service were open during 1931-32. This is about 7 per cent turn over as compared with 20 or more in a normal year.

Respectfully submitted,

DOROTHY G. JOHNSON, Director

The Minnesota Union

To the President of the University:

Sir: I submit herewith a report, prepared by the manager, on the activities of the Minnesota Union for the biennium, 1930-32.

The Board of Governors for the past two years has been composed of the following members: Students: George Brimhall, Arthur Brudvik, Winfield Foster, Charles Halpern, Harry Heltzer, Leo Hemminghaus, Thomas Hooker, Ben Johnson, Walter Manning, Richard Orff, Peter Pankratz, Eugene Pfeiderer, Thomas Ryan, William Stebbins, and Robert Wilson; Alumnus: Stanley S. Gillam; Faculty: E. B. Pierce and J. C. Sanderson.

During the past two years the Minnesota Union Board has attempted to adjust its facilities so as to meet the needs of a financially conscious student body. The only criterion of its success, the constant usage of the building, would seem to indicate that so far the steps taken have been in the right direction. The large group of male students who can look to no other organization than the Union for social intercourse has been greatly increased. The board feels that at the present time it can be of greater service than ever before to those students whose social life has been greatly curtailed by financial pressure.

Building improvements. For a number of years the Union has limited its expenses to bare maintenance costs in an attempt to provide a fund for a new Union building. After careful deliberation, the board, believing that the present conditions indicate a prolonged postponement of such a plan, decided to spend part of the accrued sum amounting to approximately \$45,000 upon alterations to the present building. Plans were approved by the Board of Regents on June 22, 1932.

The remodeling will include a new entrance vestibule, a new stair hall, changes in the corridors, decorating the five private dining rooms and the billiard room, and painting and redecorating the remainder of the building. At

the present time the work is under way and will be completed before the opening of the fall quarter.

Minnesota Union cafeteria. It was with regret that the board noted the resignation of Mrs. Mary A. Woodruff, manager of the Minnesota Union cafeteria for the past eighteen years. Under Mrs. Woodruff's guidance that department has developed from a small lunch counter, serving a few hundred students a day, to the present modern cafeteria serving sixteen hundred students daily.

Agricultural branch. In 1926 the Union Board installed a branch in the basement of the old Dairy Building on the Farm campus, but for some time the rooms lacked proper equipment. Within the past year, however, adequate equipment has been provided.

Social program. As a complement to the conducting of a suitable clubhouse for recreation, the Minnesota Union Board believes in sponsoring a definite social program. In the course of years this program varies considerably, many outgrown events being replaced by those of greater interest to the changing student body. The list as shown below will serve as a cross section of the Union's yearly program.

EVENT	ATTENDANCE
Freshman stag	1,050
All U stag	1,000
Common Peepul's Ball	600
Senior farewell dinner (fall).....	130
Senior farewell dinner (winter).....	120
Free Thanksgiving dance	225
4 post basket-ball dances	600
5 Friday noon concerts in collaboration with University Concert Orchestra.....	1,500
Senior farewell Mardi Gras.....	500
Big Ten telegraphic bowling meet	
Ping pong tournament.....	40 contestants
Bridge tournament	30 contestants
Chess tournament	22 contestants

Travel Bureau. One of the new Union projects is the establishment of a Student Travel Bureau. The purpose of the bureau is to act as a contact agent between students and faculty driving to various points in the state and surrounding country and those students who at present try the illegal practice of hitch hiking. A similar service at Purdue University has been successful.

Committee rooms. During the course of the school year the committee rooms house the offices of such organizations as the following: Freshman Week Committee, Homecoming Committee, Mock Political Convention, Pledge Nite Committee, Engineers Day Committee, Senior Week Committee, Gridiron Banquet Committee, Forum Committee, Interfraternity Council, Travel Bureau.

The period of stay of these organizations may range from one to six months. No charge is made for the use of such rooms. In many cases the Minnesota Union cooperates with the groups in the development of their programs. It is through such co-operation that the Union accomplishes one of its greatest services. Many of the smaller and less stable organizations ask for, and receive,

financial assistance. Others merely seek counsel in properly conducting the functions in which they are interested.

Financial statements for the years 1930-31 and 1931-32 are included herewith.

Finances. A statement of income and expenses for 1930-31 shows receipts of \$28,697.86 and expenses of \$24,472.51, resulting in an operating gain of \$4,225.35. Interest on investments, amounting to \$534.54, brought this to \$4,759.89, from which a depreciation charge on equipment of 12½ per cent was deducted, leaving the net gain at \$3,732.37.

For 1931-32 the financial report shows income of \$25,548.73 and expenses of \$22,804.44, leaving a net gain of \$2,744.29, to which interest of \$596.34 on investments was added, making a gross of \$3,340.63. From this a 12½ per cent depreciation on equipment was charged, amounting to \$908.19, leaving the net gain at \$2,432.44.

Respectfully submitted,

E. B. PIERCE, President
Minnesota Union Board of Governors

Administrative and Service Functions

The University Library

To the President of the University:

Sir: I submit herewith a summary report of the activities of the University of Minnesota Library for the academic years 1930-31 and 1931-32.

In accordance with the practice of several years past, detailed statistical data of growth, use, etc., are relegated to the manuscript report prepared for your office and for other administrative purposes. Only a few general tendencies and achievements will be recorded here. The library is not a separate department, but is a general university service allied with all activities of the University, instructional and administrative. To a large degree the success of the instructional work depends on the facilities offered by the library for supplementing classroom instruction, furnishing material for papers and other work outside the classroom, and for assisting the individual researches of the advanced student and the faculty member. It is the ally of the laboratory in the scientific courses. In the humanities it is the main laboratory of both the curriculum and the research work done by the University.

The Library of the University of Minnesota has been successful in measurably meeting the needs of the University in these respects. Its collection has grown steadily. Although it has not materially changed its relative rank among the universities and libraries of the country within the past ten years, it has moved to ninth from tenth among university libraries of the country. It has maintained an excellent standard of selectivity and there is a surprisingly small amount of useless material in its collection. The books relating to the curriculum are naturally selected by the instructional staff which uses them, purchased either at the initiative of specialists in the fields covered by these books or bought only after consultation with these specialists. Other books are bought only because of their evident value in various ways. The Arthur Upson Room has relieved us of the necessity of purchasing many books of a recreational character unrelated to the curriculum. Care has been taken to adopt a middle course between providing enough duplicates for collateral reading in connection with the curriculum and avoiding the unintentional and unjustified furnishing of enough copies to serve as textbooks for individual members of classes.

As far as possible the twofold purpose of the library has been considered in purchases: first, the supplying of up-to-date material for current use and second, the building up of a collection of basic material for the use of future generations of scholars and faculty members. We have been particularly fortunate in the latter field. Economic conditions within the past two years have permitted us to buy many sets and individual items of great value at very reasonable rates because of the lessened competition and the general dullness of the book trade. The promptness with which the order department has filled orders has also been a very definite factor in obtaining a high percentage of the books ordered, even from second-hand catalogs.

In common with other institutions we have been embarrassed by the large number of meritorious periodicals which have been appearing within recent years. Many of these could not safely be disregarded. It was impossible to take them all. We have a good collection in this respect, again largely because it has been selective rather than haphazard. The advice of the Library Committee in connection with periodicals has been of the greatest value.

In modern libraries the service side is a matter of no less importance than the collection of books. Modern library users in America either cannot or will not help themselves to the same extent that scholars in other countries are obliged to do. Most of them come to colleges and universities with library habits fixed and these habits usually are based on very liberal public library practices. This necessitates a trained staff competent to do a large amount of work with the least amount of waste of effort. Much bibliographical assistance is also necessary for the advanced students and even for faculty members.

We have been fortunate in having a staff which has worked together admirably and which has to a very great degree met the increase of work by increased competence and the evolution of more direct methods.

Respectfully submitted,

FRANK K. WALTER,
University Librarian

The University of Minnesota Press

To the President of the University:

SIR: The successful completion of two major undertakings of the University Press marks the close of the biennium and the fifth year of the press as a department of the University. *The Birds of Minnesota* by Dr. Thomas S. Roberts in two large quarto volumes with hundreds of illustrations in black and white and in color makes a permanent contribution to the cultural life of the state; in the de luxe binding it is perhaps the finest example of book making ever published in the Northwest. These beautiful books furnish an inspiring illustration of the possibilities for usefulness of such a publication fund as that established by the donors of the Thomas S. Roberts Trust Fund. The response of the public is indicated by the fact that the first thousand copies bound were sold within a few days of the publication date and that the book headed the best-seller list in Minneapolis bookstores for many weeks.

A second large project, *A Systematic Source Book in Rural Sociology*, was undertaken in co-operation with the United States Department of Agriculture. To bring to the solution of the problems of rural life the experience of all countries and all periods was the aim of the editors, Professors P. A. Sorokin and C. C. Zimmerman, formerly of Minnesota, now of Harvard University, and Dr. C. J. Galpin of the United States Department of Agriculture. The work, in three volumes containing more than two thousand pages of text and a fifty-page index, is called by reviewers the greatest single contribution ever made to rural sociology. Volume I was published in the fall of 1930, Volume II in 1931, and Volume III in June, 1932.

If research is to accomplish the results hoped for it, reports of findings must be published, even though the financial return is limited. A recognition of this necessity has led to a policy of setting aside some part of research grants to aid in publication. A considerable part of the work of the press is subsidized in this way. Two new series of research publications of much practical as well as scientific importance to the state have been initiated during the biennium, financed in part by grants from foundations: the Employment Stabilization Research Institute Bulletins and Studies in Economics and Business. In the first series the following titles were issued between November, 1931, and July, 1932:

The Minnesota Unemployment Research Project, by Russell A. Stevenson

Employment Trends in St. Paul, Minneapolis, and Duluth, and Monthly Employment Data for St. Paul, Minneapolis, and Duluth, 1931, by William H. Stead and Dreng Bjornaraa

The Duluth Casual Labor Group, by Alvin H. Hansen, Marion R. Trabue, and Harold S. Diehl

Business Fluctuation in the Northwest, by Richard L. Kozelka

The Decline of Employment in the 1930-31 Depression in St. Paul, Minneapolis, and Duluth, by Alvin H. Hansen, Dreng Bjornaraa, and Tillman M. Sogge

Proceedings of the Minnesota Conference on Unemployment Relief and Stabilization, November 17, 18, 19, 1931, edited by Russell A. Stevenson.

Two numbers of the University of Minnesota Studies in Economics and Business have been published:

Grocery Retailing with Special Reference to the Effects of Competition, by Roland S. Vaile

Coal Distribution in the Twin Cities, by Roland S. Vaile and Victor G. Pickett.

The report of the survey of taxation in Minnesota conducted by Professor R. G. Blakey will be the next number in this series and will be issued in the fall of 1932.

The press has been alert to increase the sales of its books and to decrease costs and otherwise improve its methods both of production and of distribution. With these ends in view, arrangements were made in 1931 with Humphrey Milford, Oxford University Press, for the joint imprinting and publication of Minnesota Press books. The first book to be thus jointly published was *The Parliamentary Diary of Robert Bowyer, 1606 and 1607*, edited by Professor David H. Willson.

One of the problems constantly confronting all university presses is how to reach economically the scattered and limited market for their books of highly specialized appeal and the general market for those comparatively few books which might interest a large public. Several co-operative ventures were made in 1931-32. The University of Minnesota Press joined twelve other university presses in setting up an Educational Directory for direct mail circulation. This directory maintains classified lists of approximately one hundred thousand names.

The University of Minnesota Press was, we believe, the first university press to make use of radio for publicity purposes; the University of Chicago Press was a close second. During the winter of 1932, the press presented over Station WLB a series of "dramatic interludes" based upon some of its recent books. The playlets were written by Miss Netta Wilson of the press staff and the parts were taken by student actors.

Sales, stimulated in a multiplicity of ways, have held up comparatively well. In 1930-31 the increase over the preceding year was about 8 per cent, in 1931-32, as a result of the great popular interest in *The Birds of Minnesota*, the increase was 31 per cent. Sales, however, are less and less an accurate measure of the activities of the press and its services to the community. A very large number of research publications are given merely a nominal price to prevent wasteful distribution and the bulk of the issue is distributed free.

In spite of a steadily increasing volume of work the staff has not been increased. Instead we have lost one member as the result of overwork and all have worked under great pressure and overtime. In addition to their work on press publications the editors are constantly

called upon by members of the faculty, staff, student body, and public for unofficial assistance and advice on the many problems of printing, editing, and publishing.

In addition to the titles listed above, the press has published the following since its 1930 report:

History and Biography

- The Populist Revolt: A History of the Farmers' Alliance and the People's Party*, by John D. Hicks
Following the Prairie Frontier, by Seth K. Humphrey
The Religious Aspects of Swedish Immigration: A Study of Immigrant Churches, by George M. Stephenson
Minnesota History: A Study Outline, by Theodore C. Blegen
E. W. D. Holway: A Pioneer of the Canadian Alps, by Howard Palmer

Education

- Class Size in High School English*, by Dora V. Smith
The Changing Educational World, 1905-1930, edited by Alvin C. Eurich
Students' Marks in College Courses, by John E. Bohan
The Reading Abilities of College Students, by Alvin C. Eurich
Student Self-Support at the University of Minnesota, by James G. Umstattt
Indices of Supply and Demand of Teachers in Minnesota, by Alfred V. Overn
One Thousand Problems in Industrial Education, by Homer J. Smith
Studies in Parental Sex Education. Papers I-IV, by Chloe Owings
An Evaluation of the Minnesota Rating Scale for Home Economics Teachers together with the scale, by Clara M. Brown

Minnesota College Aptitude Tests, with examiner's manual, by D. G. Paterson and others
Who Should Go to College, by J. B. Johnston

Minnesota Reading Examination for College Students, with examiner's manual, by M. E. Haggerty and A. C. Eurich

Child Welfare

- The Measurement of the Intelligence of Young Children by an Object-Fitting Test*, by Ruth E. Atkins
The First Two Years: A Study of Twenty-five Babies. Volume I. Postural and Locomotor Development, by Mary M. Shirley
Anger in Young Children, by Florence L. Goodenough
Child Care and Training, third edition, by Marion L. Faegre and John E. Anderson

Science

- Measures of Double Stars*, by F. P. Leavenworth and William O. Beal
Guide to the Spring Flowers of Minnesota, by C. O. Rosendahl and F. K. Butters

Literature

- Classical Studies and Sketches*, by Joseph B. Pike

Miscellaneous

- Administration of Workmen's Compensation in Minnesota*, Bureau for Research in Government, Publication No. 9, by Lloyd A. Wilford
An Introduction to Sociology
A Catalogue of the University of Minnesota Press, 1931

Respectfully submitted,

MARGARET S. HARDING, Managing Editor

University Concert Courses

To the President of the University:

Sir: I herewith submit the report of the university concert courses for the biennium 1930-32.

Besides the regular University Artists Course the University has just closed two seasons of symphony concerts by the Minneapolis Symphony Orchestra with soloists of international reputation.

The Artists Course of recitals presented the following artists last season: Lawrence Tibbett, Mary Wigman, Don Cossacks. Sigrid Onegin, Vladimar Horowitz, and Yehudi Menuhin.

The affiliation two years ago of the University of Minnesota with the Minneapolis Symphony Orchestra is the

only union of its kind anywhere. Eighteen Friday night concerts and nineteen Sunday popular concerts were presented in Northrop Memorial Auditorium by this distinguished orchestra to combined audiences, averaging 4,000 each, from St. Paul, Minneapolis, the University, and many groups from surrounding colleges and schools. The following soloists were also heard in this series last season: Mary Garden, Elizabeth Schumann, Harold Bauer, Adolph Busch, Tito Schipa, Sergei Rachmaninow, Eunice Norton, Walter Gieseking, Richard Crooks, Inga Hill, and Mischa Elman.

Respectfully submitted,

VERNA M. SCOTT, Director

The Field Secretary and General Alumni Association

To the President of the University:

SIR: I submit herewith a report on the work of the field secretary of the University and the secretary of the General Alumni Association for the years 1930-31 and 1931-32.

Alumni Board. The directors for the year 1931-32 were as follows: George R. Martin, Arts '02, vice president of the Great Northern Railway Company, president; Orren E. Safford, Law '10, vice president; Thos. F. Wallace, Arts '98, Law '95, president of the Farmers and Mechanics Bank, treasurer; E. B. Pierce, '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, Engineering and Architecture; Frank W. Peck and Albert C. Arny, Agriculture, Forestry, and Home Economics; C. F. E. Peterson and Tracy J. Peycke, Law; James B. Carey and Thomas Dickson, Medicine; Coates P. Bull, School of Agriculture; Joseph Shellman and L. W. Thom, Dentistry; Charles V. Netz, Pharmacy; R. J. Mayo, Education; Frank J. Tupa, Business Administration; Robert J. S. Carter, Ray P. Chase, Spencer B. Cleland, Caroline M. Crosby, Robert E. Ford, Arthur B. Fruen, Ray R. Knight, Erling S. Platou, Orren E. Safford, and Oswald S. Wyatt, directors at large; W. F. Braasch, first district; W. L. Burnap, ninth district; Charles G. Ireys, Charles F. Keyes, Henry F. Nachtrieb, and Edgar F. Zelle, honorary members.

Alumni Weekly. This publication, edited by William S. Gibson, '27, is of inestimable value in uniting the graduates of the institution and stimulating their interest in the program and progress of their Alma Mater. During the past year there were 540 pages of material sent out and a greater proportion than ever before was devoted to editorial and news material due to decrease in advertising. This volume of class news, personal interest items, university activities, campus news including reports of achievements of faculty members, subjects such as the international relations project, the symphony orchestra, University Band, Sigma Xi lecture series, Minnesota history series, sports, articles on various subjects by members of the faculty and prominent alumni, went to more than 8,000 subscribers in all parts of the world and was read by approximately 30,000 people. There is frequently a reprinting of Alumni Weekly articles in newspapers in the state and publications elsewhere, so that it is impossible even to estimate the number of readers reached through the Alumni Weekly material. A new project was initiated this past year which may become permanent. At the suggestion of the editor, the student homecoming committee sent *Weeklies* to several thousand alumni instead of preparing booklets of their own. This saved the committee money and was certainly of definite advantage to the alumni organization because it placed the *Weekly* in the hands of thousands of alumni who are not regular subscribers. A special Pioneer Hall number of the *Weekly* was also sent to an additional list of alumni. Early in the

fall of 1931 a special number was sent to all alumni on the Pacific coast preceding the Minnesota-Stanford football game. This spring also was published a sixty-eight page, finely printed booklet entitled *University of Minnesota Illustrated*. The *Weekly* has stimulated interest in the meetings of local alumni units through repetition of publicity.

Alumni Advisory Committee. In addition to the Board of Directors elected to determine alumni policies, there is a supplementary group of selected alumni located in the various parts of the state known as the alumni advisory committee. This group has met regularly once or twice a year here at the University. Its function is to insure the existence of a group of interested, informed graduates of the University in the respective legislative districts who may as best they can interpret the University to the people of their communities. The first meeting was held in December, 1928. The group has rendered and will continue to render great service to the University.

Alumni gatherings. Minnesota graduates in the various parts of the state and in centers outside of Minnesota enjoy getting together occasionally to renew their acquaintanceships, meet the younger graduates, hear about the progress of the institution, and, if possible, meet some representative coming directly from the University. For the first time in the history of the institution the alumni secretary had the pleasure last fall (October, 1931) of meeting with the various alumni units on the Pacific coast. His itinerary included Great Falls, Spokane, Seattle, Portland, San Francisco, Los Angeles, Salt Lake City, and Denver, and Omaha. The interest in these meetings was tremendous. Both attendance and spirit at the gatherings were very gratifying and stimulating.

Other meetings held during 1931-32 under the auspices of the association, or which were held under the direction of alumni in the interests of the University, were as follows: September 23, General Alumni Executive Committee; October 20, general alumni directors; October 23, Grand Forks; October 31 (homecoming), Alumni Advisory Committee; general alumni dinner, also medical alumni dinner, at the University; November 6 (eve of Michigan game), Detroit; December 12, Moorhead; December, Fort Wayne; December 26, civil engineers; January 1, Schenectady; January 8, Mankato; January 25, Detroit Lakes; January 28, Waseca; February 5, Spokane; February 11, Milwaukee; February 11, New York City; February 12, Washington; February 15, Chicago; March 1, general alumni directors; March 4, Mankato; March 23, Winona; April 22, Princeton; May 23, Alexandria; May 25, Alumni Executive Committee; June 6 (Alumni Day), Alumni Advisory Committee at the University; reunion meetings of the quinquennial classes; presentation to the University by the Class of 1892 of bronze plaque marking entrance to Old Main Building; planting of the George Washington bi-

centennial tree on the knoll; general alumni dinner at the University; June 8, Duluth; June 11, meeting of Madison, Milwaukee, and Chicago alumni at Oconomowoc, Wisconsin; June 25, Detroit picnic.

Alumni Directory. The list of alumni has grown so large that the task of compiling a directory in one volume is practically impossible under present conditions. Miss Potter does not have adequate assistance to issue such a publication. In fact, emphasis has now been placed upon issuing smaller lists of single college units. Thus far directories have recently been issued for Law,

Medicine, Dentistry, Engineering and Chemistry, and Mines. Other group lists are being planned.

Other activities. The field secretary also serves as president of the Minnesota Union Board of Governors, chairman of the Senate Committee on Intercollegiate Athletics, and chairman of the Committee on University Functions. Details of this work may be found in the reports of those committees.

Respectfully submitted,

E. B. PIERCE,
*Field Secretary of the University and
Secretary of the General Alumni Association*

The Committee on University Functions

To the President of the University:

Sir: I submit herewith the report of the Committee on University Functions for the years 1930-31 and 1931-32.

Convocations, 1930-31

- July 24: Summer session commencement exercises: John N. Brown, President of Concordia College, Moorhead, "This One Thing I Do"
- October 2: Opening convocation: Lotus D. Coffman, President of the University, "Address of Welcome"
- October 16: Henry A. Bellows, President, Northwestern Broadcasting, Inc., "Debits and Credits for Radio in the Field of Education"
- October 23: The Reverend Fulton J. Sheen, Professor of Theology, Catholic University of America, "The Belief in God and the Necessity of Religion"
- October 30: Harrison E. Howe, Editor, Industrial and Engineering Chemistry, "Remaking the World"
- November 6: Sylvanus G. Morley, Archeologist, "Archeological Explorations in the Maya Field"
- November 13: The Honorable Ruth Bryan Owen, Member of the United States Congress from Florida, "Opening Doors"
- November 20: James Thomson Shotwell, Carnegie Endowment for International Peace, "Peace Makers and Peace Making, 1919-1930"
- December 4: State Day Convocation: The Honorable Floyd B. Olson, Governor-elect of the State of Minnesota, "Citizenship"
- December 18: Fall quarter commencement exercises: The Reverend Lars Boe, President, College of St. Olaf, "The Graduate's Opportunity"
- January 15: Henry Turner Bailey, Director, Cleveland School of Art, "The Importance of Barbarian Invasions"
- January 22: Chester Rowell, Foreign Policy Association, "The World Court"
- January 29: Fay-Cooper Cole, Professor of Anthropology, University of Chicago, "Pre-historic Mound Builders of the Upper Mississippi Valley"
- February 5: Ray O. Wyland, Director, Educational Department of the Boy Scouts of America, "A National Program of Social Engineering"
- February 26: Rabbi Abba Hillel Silver, Cleveland, Ohio, "How To Measure Life"

- March 5: Military Convocation: Admiral William S. Sims, "Public Opinion and the Navy"
- March 12: John Van Antwerp MacMurray, Director, Walter Hines School of International Relations, Johns Hopkins University, "The Ethics of Diplomacy"
- March 19: Winter quarter commencement exercises: Elmer B. Bryan, President, Ohio University
- April 16: John Brown Scott, Secretary, Carnegie Endowment for International Peace, "Socialization of Law"
- April 23: Christopher Morley, Author, "Escaped into Print"
- April 30: The Reverend Ernest F. Tittle, First Methodist Church, Evanston, Illinois, "The Religion We Need"
- May 14: Cap and Gown Day Convocation: Harold S. Eberhardt, President of the All-University Senior Class, "Presentation of the Class of 1931"; Lotus D. Coffman, President of the University, "Response"
- June 7: Baccalaureate Service: George B. Cutten, President, Colgate University
- June 8: Commencement exercises, University Stadium, George E. Vincent, President of the University of Minnesota, 1911-1917, "Universities and World Relations"

Convocations, 1931-32

- July 23: Summer session commencement exercises: Leo E. Owens, M.E. '11, Publisher, *St. Paul Pioneer Press-Dispatch*
- October 1: Opening convocation: Lotus D. Coffman, President of the University, "Address of Welcome"
- October 15: The Honorable Henrik Shipstead, United States Senator from Minnesota, "The Responsibility of Sovereignty"
- October 22: Carl Van Doren, Author, Editor, *The Literary Guild*, "American and European Literature"
- November 12: Rabbi Lewis I. Newman, Congregation Rodeph Sholem, New York City, "The Rediscovery of Lost Values"
- December 2: Student Assembly for Football Awards: Herbert O. Crisler, Director, Physical Education, "Review of Season"; James C. Lawrence, University Dean, awarding of M's
- December 3: Roy H. Akagi, Visiting Lecturer on Japanese Affairs, Columbia University and Charles F. Remer, Professor of Economics, University of Michigan, Discussion—"Conflicting Interests in Manchuria"

- December 17: Fall quarter commencement exercises: James C. Lawrence, University Dean
- January 21: Arthur R. Mann, Cornell University, "Some Educational Implications of the Economic Problems of Agriculture"
- February 4: The Reverend Francis P. Lyons, Rector, St. Mary's Catholic Church, Chicago
- February 11: Max Eastman, Author, "The Future of Liberalism"
- February 18: Frank R. Kent, Vice President, *The Baltimore Sun*, "Politics and Personalities"
- February 25: Maud Sheerer, "The Barretts of Wimpole Street" (reading)
- March 3: Charles E. Merriam, Department of Political Science, University of Chicago, "Reducing Governmental Costs"
- March 17: John W. Dafoe, Managing Editor, *Winnipeg Free Press*, "The University Graduate and the Problems of the Future"
- March 31: Military Convocation: General Robert Lee Bullard, "A Discussion of the Different Means of National and International Peace and Security"
- April 7: Lotus D. Coffman, President of the University, "University Life in the Antipodes and the Orient"
- April 14: Charles A. Beard, Historian, "The Challenge of Technology to the Coming Generation"
- April 21: Founders Day Convocation: Fred B. Snyder, '81, Chairman, Board of Regents, "University Pioneers"; Lotus D. Coffman, President of the University, "The Founders in Review"
- April 28: The Reverend Harold C. Phillips, Minister, First Baptist Church, Cleveland, Ohio, "A Key to Life's Meaning"
- May 12: Cap and Gown Day Convocation: John Kukowske, President of the All-University Senior Class, "Presentation of the Class of 1932"; Lotus D. Coffman, President of the University, "Response"
- May 19: Norman Thomas, League for Industrial Democracy, "The College Student at the End of an Epoch"
- June 5: Baccalaureate Service: The Reverend Hugh Black, Professor of Practical Theology, Union Theological Seminary, New York, "The Outlook of Religion"
- June 6: Commencement exercises, University Stadium, Lotus D. Coffman, President of the University, "Charge to the Class"

Founders honored. In 1931-32 one of the most interesting and significant functions was the Founders Day Convocation, April 21, 1932. The committee appointed by the president to make the selection was as follows: Andrew Boss, chairman, Messrs. W. F. Braasch, E. H. Comstock, H. A. Erikson, G. S. Ford, M. E. Haggerty, C. M. Jackson, J. B. Johnston, James Paige, E. B. Pierce, and Fred B. Snyder. The committee at once enlisted the aid of the State Historical Society and through the help of Professors William Anderson, Theodore Blegen, and Solon J. Buck was finally enabled to determine the list of founders. The names of these university pioneers are engraved on the central panels in the foyer of the auditorium. On the other panels will be engraved later the names of the builders and the benefactors already chosen. To these first choices others will be added from time to time. This convocation is described in the opening section of the president's report.

Statistics of graduation. The number of candidates for each of the graduation periods of 1930-31 and 1931-32 is as follows:

1930-31:

First Summer Session, July 24, 1930	224
Second Summer Session, August 29, 1930	127
Fall quarter, December 18, 1930	293
Winter quarter, March 19, 1931	240
Spring quarter, June 8, 1931	1,556
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Total for the year	2,440

1931-32:

First Summer Session, July 23, 1931	228
Second Summer Session, August 28, 1931	120
Fall quarter, December 17, 1931	298
Winter quarter, March 17, 1932	255
Spring quarter, June 6, 1932	1,503
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Total for the year	2,404
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Grand total for the biennium	4,844

Respectfully submitted,

E. B. PIERCE, *Chairman*

The Museum of Natural History

To the President of the University:

Sir: I have the honor to submit the following report of the condition and the activities of the Museum of Natural History for the biennial period ending June 30, 1932.

Museum. The material improvement in the museum during the last two years has consisted largely in the addition of small portable loan exhibits and a considerable number of specimens, chiefly birds and mammals, to the study collections. Several medium sized groups have also been constructed but there will be no opportunity to add to the series of large habitat groups until more commodious quarters are provided. This is unfortunate as the materials

and funds for desirable exhibits could be obtained at present if they could be accommodated.

The number (103) of finished portable school groups now far exceeds the facilities for displaying them and the surplus has to be stored when not in circulation.

The week day attendance at the museum has continued to show a gradual increase and the attendance on Sunday afternoons in January, February, and March, when the museum is open to the general public, has increased greatly. This increase was helped by advertisements placed in the Minneapolis and St. Paul street cars—twice during 1931 and once in 1932. On one Sunday afternoon (February 22, 1931) 1,570 people came to the museum. The total

attendance for the twenty-six open Sundays in 1931 and 1932 was 14,681, an average of about 564 for each Sunday. But for some reason not evident, the attendance in 1931 was nearly three times greater than in 1932.

The formal Sunday afternoon lecture course in the Music Auditorium was discontinued after the winter of 1930.

The general lecture work of the museum has continued as heretofore. Thousands of school children in groups, accompanied by their teachers, come to the museum by appointment, are given a lecture illustrated by motion pictures, and then piloted through the museum with an explanatory talk before each exhibit. This work is now carried on almost entirely by Mr. Kilgore, the curator.

The director has devoted a large part of his time to the preparation of the work, *The Birds of Minnesota*, recently issued by the University Press and the museum. It is based largely on information contained in the files of the museum and on the museum's study collection of birds. (A further description of this book may be found in the report herein of the University Press.)

During the past biennium Mr. James Ford Bell made a formal offer to the Board of Regents of \$125,000 to be used in the construction of a museum building, provided the state legislature would appropriate a like amount. This the legislature failed to do and the project fell through.

Exhibits. Eighteen portable school groups and three medium sized groups have been constructed during this period.

The following special gifts have been received and placed on exhibition: a mounted tarpon from Dr. L. D. Coffman; 18 mounted fish, mostly marine, from Mrs. C. D. Velie; a very fine American bison or buffalo head from Mr. Cavour S. Langdon; and as an indefinite loan, a magnificent musk ox head from Mr. F. J. Ward.

Accessions to museum. A list that shows in detail the accessions that have been made to the museum during the last two years by gift and by purchase can be made available to those interested. In addition to these, 72 mammal skins and 282 bird skins have been added to the study collections by field work.

Field trips. The director and Mr. Kilgore and Mr. Breckenridge have made a number of field trips during the biennium. Among these was a trip by Mr. Breckenridge to study the sandhill cranes in Pine County. Mr. Breckenridge also studied and filmed the nuptial display of the Canada spruce grouse in St. Louis County in May, 1931. Later in the year he studied western birds in British Columbia and collected, on the shore of Lake Superior, a harlequin duck, the first and only authentic record of this species in the state.

A considerable amount of field work within a radius of seventy-five miles of Minneapolis has been done in the last two years and has produced some very interesting specimens, including a complete pictorial record of the nesting activities of the woodcock.

Museum maintenance budget. From this budget of \$2,700 annually, the largest item spent was \$1,585, which went to help pay for originals of the color plates in the book, *The Birds of Minnesota*. These and all the other

colored plates, costing approximately \$8,000 are now the property of the University.

Small group donation fund. The general museum donation fund which stood at \$264.62 on May 1, 1931, was transferred at that time to the small group donation fund, carried with the First Minneapolis Trust Company. These combined funds are now known as the museum donation fund, carried in the name of Thomas S. Roberts, trustee. On July 1, 1932, it amounted to \$373.15. Prior to its transfer to the Minneapolis Trust Company, the general museum donation fund had been carried in the First National Bank.

Throughout the past two years Mr. James Ford Bell has continued his monthly gift of \$75 to the museum, amounting to \$1,800 for the biennium. These funds have been drawn on in paying for the color plates already referred to and checks for \$100 each received from Mr. W. H. Bovey and Mr. J. R. Kingman were applied to the same purpose.

Publications. The major publication was a two-volume, quarto work entitled *The Birds of Minnesota*, illustrated with 92 color plates and over 600 text figures and halftones. It was issued by the University Press with the added signature of the Museum of Natural History. Five thousand copies were printed. Its publication was made possible by a donation of \$32,500 by a group of Minneapolis citizens. An agreement between the Board of Regents and the donors contained a clause establishing a Thomas S. Roberts Trust in perpetuity to consist of the final proceeds of the sale of the book and any part thereof, the interest from such trust fund to be used primarily as a publication budget for the museum.

The director wrote the introductory chapter on the "Vanished Mammals of Minnesota" in Mr. T. Surber's *Mammals of Minnesota*.

A bulletin of forty pages entitled *Occasional Papers*: Number 3 which was referred to in the last report as in course of preparation was issued and distributed in the late summer and fall of 1930. It contained four ornithological papers by members of the staff based on research work done under the auspices of the museum.

Photography. During the two-year period 1,280 feet of motion picture negative have been made and developed and 2,037 feet of positive printed, mostly of wild birds including the important series showing the nuptial display of the Canada spruce grouse.

Co-operation. Grouped here are such activities as the school lectures both at the museum and outside, lectures to various organizations and special groups, loans of portable school cases, slides, motion picture reels, specimens, etc., and assistance rendered to Boy and Girl Scout organizations and other departments of the University.

Lectures to school groups June 30, 1930 to June 30, 1932	114
Other lectures	82
Total	196
Total attendance on these lectures	12,291

(Additional data are available to persons who inquire.)

Respectfully submitted,

THOS. S. ROBERTS, Director

The Geological Survey

To the President of the University.

Sir: I herewith submit a report on the work of the Minnesota Geological Survey during the period from July 1, 1930 to June 30, 1932.

The survey was allotted \$16,000 for the biennium begun July 1, 1930. A portion of this sum was set aside for the publication of maps and reports and the remainder was used chiefly in support of field work connected with the projects outlined in earlier reports to the president of the University, and published in his annual reports. Of the following investigations, 1 and 2 are completed and the results are now ready for distribution.

1. **A geologic map of Minnesota.** This is the first state geologic map of Minnesota to be issued. It is printed in colors in two large sheets on a scale of 1 to 500,000. On the same sheets are shown three geologic cross sections and columnar sections for the north part and for the south part of the state. The Minnesota Geological Survey for several years has been engaged in field work that was necessary before the map could be made.

The map is intended to show the rock formations as they would appear if the mantle rock or glacial drift were removed. Because a large part of the state is covered by glacial drift it has been necessary to make full use of the records of water wells and other borings. In the preparation of the map the records of many thousands of water wells and drill holes have been used. The map was prepared chiefly by the director of the Geological Survey, but the field data were supplied largely by other members of the survey and by earlier reports of surveys by N. H. Winchell and associates, F. Leverett, F. W. Sardeson, and other members of the U. S. Geological Survey.

2. **A bulletin on the water resources of northwestern Minnesota** has been prepared by Dr. I. S. Allison, formerly of the University of Minnesota, and now at the Oregon State Agricultural College. This bulletin contains 240 pages and treats the water supply of nearly one third of the state. In parts of northwestern Minnesota it is difficult to obtain suitable water supplies. The underground waters are very high in mineral salts and are not suitable for the use of men or livestock. With diversified farming the problem of suitable water supply for farms becomes increasingly important. At certain places the salinity of the waters decreases with depth and deeper drilling is recommended. At other places, however, the deep waters are no better than those found near the surface. At such places it is necessary to depend chiefly on supplies of surface waters and to build houses and barns with large expanses of roof in order to catch larger supplies for cisterns. The water supplies for each county of northwestern Minnesota are taken up separately. Well records are reported and the results of hundreds of water analyses are recorded. The report aims to show for each county what rocks contain water and the character of the water obtained from each group of beds.

3. **A bulletin on the Rose slate of northeastern Minnesota** has been prepared by Dr. F. F. Grout and Dr. G. M. Schwartz and should be issued in 1933.

4. **A bulletin on rock fertilizers** (limestone and marl) of about 200 pages is nearly completed and should be issued in 1933. The limestones of southern Minnesota are treated by Dr. C. R. Stauffer and the marl deposits by Dr. G. A. Thiel.

Projects Under Way

Dr. Gruner is engaged upon work on the pre-Cambrian rocks of the Vermilion iron district, Lake County, northeastern Minnesota. A report on this area will be completed in 1934. The work will result in important contributions to the pre-Cambrian geology of Minnesota.

Dr. G. M. Schwartz is engaged in a study of foundation rocks of the metropolitan area including Minneapolis and St. Paul. The area is underlain by limestone and sandstone which are cut through by an ancient drainage system with water channels 200 or more feet deep, now buried under glacial drift. The excavation for sewers, water systems, etc., in these ancient buried channels is very difficult because the rocks do not stand and at places the work must be done under a heavy air pressure to prevent water from flooding the excavations. The cost per foot of crossing these ancient channels is several times that of tunneling into the hard rocks. It is desirable therefore to cross the channels at as few places as possible and where practicable, at right angles. As a result of this work the channels will be accurately mapped and the attitude and lay of the rocks shown over an area including Minneapolis and St. Paul and all suburban centers.

During the field season of 1931 G. M. Schwartz, assisted by O. H. Kristofferson, started the detailed mapping of the feldspar deposits of the area along the north shore of Lake Superior. These deposits are of an unusual type. They are very large and of high purity. It is hoped eventually to discover commercial uses for this material and research work is being carried on by at least one commercial feldspar company at present.

This work will be continued as soon as the foundation work of the Minneapolis-St. Paul area is completed.

In addition to the special investigations outlined above and the preparation of the geological map of Minnesota, the State Geological Survey has answered numerous inquiries that have come to the office daily. The requests for information cover a wide variety of subjects, and the materials to be examined include waters, oils, clays, fluxes, ores, sand, gravel, crushed stone, building and ornamental stone, road metal, etc. In many cases samples are sent in for testing by those interested, and thus the survey is attempting to aid in bringing to the state such industries as could profitably be operated within its borders. This service is rendered without charge to all applying, and the demand for it has steadily increased in recent years.

Respectfully submitted,

W. H. EMMONS, Director

The Department of Military Science and Tactics

To the President of the University:

Sir: I have the honor to submit the following report of the Department of Military Science and Tactics for the period 1930-32.

The work in the Military Department during the period covered by this report has been highly satisfactory. I believe that there has been a considerable improvement in the interest shown in military instruction by the students of the University. There has certainly been less complaint against the compulsory feature of this instruction during this period than several years prior thereto. Every effort has been made by this department to maintain a high standard of education and at the same time keep up the interest of the students in this form of instruction.

The situation in reference to the Advanced Course, that is, that course which is entirely voluntary and follows the first two years of basic instruction, has shown considerable progress. There are several more applicants for each vacancy in the various units than there are vacancies.

A representative of the commanding general, Seventh

Corps Area, has conducted inspections of the military instruction during each of the past two years. At each of these inspections, the highest rating given—that of "Excellent"—was awarded all units at the University. The results of the 1932 inspection show a very satisfactory improvement over that of 1931.

A change has been made in the plan of instruction for basic students during the spring quarter. Instead of having three hours of consecutive instruction on each Tuesday and Wednesday afternoon, the hours of instruction were staggered throughout the week. This change proved of considerable help in the instruction.

I take this occasion to express my appreciation to the administrative officers and college faculties for the fine spirit of co-operation they have shown throughout the past two years.

Respectfully submitted,

JOHN H. HESTER

Lieutenant Colonel, Infantry, D.O.L., P.M.S. & T.

The Bureau for Research in Government

To the President of the University:

Sir: The Bureau for Research in Government during the period 1930-32 has concentrated its efforts on the continuation of studies of local and state government in Minnesota and on the accumulation of materials for the bureau library.

Professor William Anderson's statistical study of local government in Minnesota is now in manuscript and will be published by the bureau during the coming year. A detailed study of election laws in Minnesota is also being carried on by the bureau.

Particular attention has been paid during the last two years to co-operating with the library in acquiring materials of interest to students in state and local government and the relations between the national government and the state. The bureau has acquired a set of the *Minneapolis Council Proceedings* from the first volume on to the present date. These sets are extremely difficult to obtain and are invaluable in the study of municipal government in the Northwest. The bureau has also acquired a good collection of reports of the attorneys-general of the

several states. These reports, supplemented by the reports of the attorney-general of the United States, are proving to be fruitful sources of information in the prosecution of a number of studies. The extended use of this material is something of an innovation in the study of political science in this country.

In preparing for future studies on legislation and legislative bodies the bureau has been able to obtain a set of contested election cases in the National House of Representatives and in the Senate of the United States. These volumes are out of print, are exceedingly difficult to obtain, and should prove of first rate importance to students and professors of government.

The continued use by students and teachers and interested laymen of the bureau library of pamphlet and official material is regarded by the bureau as evidence justifying the attention which has recently been put upon the library phase of the bureau activities.

Respectfully submitted,

OLIVER P. FIELD, Director

Publications of the Faculties

A list of the publications of the faculties of the University of Minnesota for 1930-31 is published as Volume XXXIV, No. 62, and for 1931-32 as Volume XXXV, No. 65, of the University of Minnesota Bulletin Series.

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